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Original Contributions.

ARTICLE I.

REMARKS ON YELLOW FEVER. By REUBEN A. VANCE, M. D., of Cincinnati, Ohio.

Yellow fever is a tropical disease which commerce has brought to our doors. This fact is so well established that it is but a waste of time to argue upon it. Whether its germs have obtained such a foothold in the broad valley of the Mississippi as to require but favorable conditions of air and heat to develop the original disease, I shall not attempt to say, for others are far more competent to discuss this phase of the question than myself. The language I used in describing the conditions favoring the development of the affection when once its germs have been introduced seems to have struck the fancy of numerous students of this question, for I find it quoted by legislators and physicians as a satisfactory expression of the facts. In again embodying the ideas advanced at the Tri-State Medical Society, at Springfield, Ill., in November last, with the phraseology of my letter to Dr. Minor, the health officer of Cincinnati, I simply enunciate the

conclusions at which I have arrived as a result of careful study of the whole matter.

As already stated, it is only necessary to cite the well-known fact that yellow fever is indigenous in certain parts of the world—as Vera Cruz and Havana, the West India Islands, and different points on the coast of Central and South America. That it is *not* indigenous here—at least in the same sense that it is indigenous in the countries just mentioned—will be denied by but few. On the contrary, it is not only necessary to bring it here, but, so to speak, to care for it in its incipiency, and afford it the congenial soil of bad hygienic surroundings, in order to develop it into an epidemic form. But once imported and so situated as to increase, it propagates itself through certain definite avenues. The disease cannot be strictly transmitted from the sick to the well; it requires a series of intermediate agencies, and without these agencies, yellow fever cannot spread. These intermediate agencies, upon which the spread of yellow fever depends, are the excreta from patients with the disease. The cutaneous exhalations, the urine and the fæces, but preëminently those excretions and voided secretions which contain blood—the black vomit and bloody intestinal evacuations—communicate the disease, both directly and indirectly. Despite all care—and only those who have had personal experience can form an idea of the care ordinarily accorded yellow fever patients during the prevalence of an epidemic—there are but too many avenues through which the well are brought into direct contact with the excreta of the sick. Yet the important means of communication are direct. These organic excreta generate a miasm which arises from bedding and clothing, from vessels, privies and drains; in fact, from every spot where these excreta are deposited, and, when the disease reaches a certain degree of intensity, each new case becomes a center from which the epidemic spreads.

Isolated facts are dangerous arguments, yet a multitude of well-observed instances constitute the best of evidence. Let me briefly cite a few personal observations:

The second case of yellow fever in Gallipolis, O., last summer, occurred in the person of James T. Myers. This patient was a fine specimen of physical manhood, a steamboatman by occupation, and had just returned from the South, where he had spent several years. The John Porter arrived at Gallipolis August 18th, 1878, and her crew was discharged some time during

the following week. An agent of the proprietors of the boat came to the town during the last week in August and employed men to cleanse the boat and barges. Myers volunteered to go as one of the party, and went to the landing where the boat was made fast. According to the date given me by Myers when I was first called to his bedside, Wednesday, August 28th, he went to where the Porter was tied up on Saturday, August 24th, and started across the barges, intending to go aboard of the steamboat. In passing through the covered deck of the model barge Mingo, he slipped and fell, and in so doing soiled himself in some filthy mass on the floor. The stench arising from this stuff was so overpowering that he felt dizzy—not so much sick at the stomach, as he expressed it, but blind and dizzy, and, without a word of explanation to his employer, he retraced his steps, went on shore, and endeavored to wash himself with sand and water. His retreat was so sudden and inexplicable that those on the boats jeered at him, and thought sudden fear had caused him to leave. Finding himself no better for his washing—the intolerable stench still remaining in his nostrils—he walked back home. That day he was depressed, and not himself. The next morning he had no appetite for breakfast; on Monday he vomited freely; on Tuesday fever came on; on Wednesday I was called and diagnosticated yellow fever. Dr. Cromley, and subsequently Drs. Sanus and Needham, joined me in the case. Dr. Needham remained until the patient died, Monday, September 2d, 1878. On the Sunday evening before Myers died, while endeavoring, with Dr. Needham's assistance, to improve his position in bed, the poor fellow caught me by the collar and raised himself almost to his feet. In the struggle a paroxysm of vomiting came on, and I was deluged with a quantity of horribly offensive material, composed in great part of blood. Before I could escape from the patient's house to my own residence—where, fortunately, ample precautions had been made for any such emergency—I could not help inhaling the emanations from the materials with which I was drenched. For several days I suffered from a severe headache, with loathing of food and occasional attacks of nausea; no fever resulted, however, and in a few days I was as well as ever.

In conversing with a resident of the infected district below Gallipolis, where the mortality was so great, he told me of the following circumstance: At one of the houses where two deaths

occurred, a finely worked white spread was taken to cover the last patient. Free hemorrhage from the gums and nose was a conspicuous symptom in both cases, especially the last one, and it chanced that this spread was stained with blood, but not soiled in any other way. When the bedding was destroyed, this spread was laid aside, removed to an adjacent house, and a woman of the neighborhood employed to wash it, some excuse being made for its condition. This woman, utterly without knowledge of the antecedents of the article she was engaged to cleanse, took a tea-kettle full of hot water and started to pour its contents over the spread which had been thrown into a tub, but had neither been soaked in hot water nor disinfected. When the fumes arose and enveloped her, she suddenly stopped and sat down. Shortly after she made the remark that she was sick at her stomach; that her breakfast had disagreed with her. Within a week afterwards this woman took the fever and died, and her name figures in the death-roll of those who had been on the Porter.

Let me quote a paragraph from my letter to Dr. Minor, the health officer of Cincinnati:

"One more word and I am done. You say in your letter that the last trip of the Porter was very fatal to her crew. Now, I know of but two deaths,—Hill and Long—and I also know that both these men were exposed to the poison of the Mingo. The same is true of two others of the crew who were sick about Oct. 8d, and were said to have yellow fever. In reference to my own case, (if I suffered from poison imbibed from the Porter and her barges, and of that I think there is little doubt,) you know how much I was exposed on the Mingo. So here are five cases, with two deaths, on which the influence of the Mingo was clear. In regard to Mr. Cooper, I don't know how much he was exposed; he can answer for himself. On the other hand, there were twenty of the crew of the Porter who were on the boat for more than a week, and who were not exposed to the poison of the Mingo, and who, as I also know, have remained well. You will observe that I omit Field from my calculation. Rumor says that he has had the fever, but I have no means of learning the truth of the matter. One thing, however, is very apparent, and that is this: Had not the Mingo been destroyed as she was, the second upward trip of the Porter and her barges would have been attended by such a spread of yellow fever along the banks of the Ohio river, as to dwarf into insignificance the destruction of life and

property which marked her desolating march from New Orleans to Gallipolis."

The following facts will explain the foregoing allusions: The steamer John Porter, a tow-boat, with a fleet of barges, had a case of yellow fever occur among the crew soon after starting from New Orleans for Pittsburg. The details of the trip of this ill-fated boat from New Orleans to Gallipolis, Ohio, are well known; the second trip of this boat from Gallipolis to Cincinnati, and her subsequent progress up the river, are less known. The steamer, surrounded by barges, was moored on the Virginia side of the river, a mile below Gallipolis, where they were secured by an agent of the proprietors some time during the last week in August, 1878. It should be borne in mind that the Porter was a new boat, and so far as elegance of appointments was concerned, was more like a first-class passenger craft than a tow-boat. When the fever occurred on her upward trip, the sick were removed to the model barge Mingo, and there cared for. In September, Mr. John Porter, one of the proprietors of the boats, came to Gallipolis, and arranged with me to disinfect his boats. Before I got ready to do so, heavy rains fell, and while I was on board of the Porter disinfecting her, the flood broke the ropes and carried off both boat and barges. The Porter was soon made fast to the bank, the barges were carried on down the river. At this time I had examined but two of the barges, and the Porter. It being impossible to procure another boat, and I having found the steamer Porter in good condition, I advised captain Porter to raise steam on the latter, and start after the missing barges—that it was his duty to leave no step untaken necessary to gather up the infected barges. He did so; at Ripley, Ohio, we found the barge Mingo, (I having accompanied the party at Captain Porter's earnest solicitation,) and I inspected one of her two compartments. The stench arising from this barge was something indescribable. I advised Captain Porter to put a guard over this barge to keep people off; my advice was followed, and the search was renewed, the Porter resuming her journey down the river. That night the barge Mingo was found floating by the Porter, it having been cut loose by the people living near where it was made fast. The next day Dr. Minor, of Cincinnati, came aboard, and in inquiring about the Mingo, gave me such information as led me to suspect the presence of dead bodies in the hold of the latter. The missing barges having now all been accounted for,

the question of the disposition of the Mingo had to be answered. When the case of Myers is recalled, and the fact that the Mingo had been used as a receptacle for the sick and dead is considered, I think few will deny that the disposition made of her was the best under the circumstances. At the urgent request of Dr. Minor and myself, Captain Porter set fire to and destroyed the Mingo. That this act was a fortunate thing for the people of the Ohio Valley, let the facts cited in the above quoted paragraph from my letter to Minor, speak for themselves. Of thirty odd men on the Porter on her second trip, seven were exposed to the poison of the Mingo;. of this number, six certainly, and the remaining one probably, had yellow fever, and two died. Of the remainder, all of whom were on the John Porter for more than a week, but none of whom were exposed to the Mingo, not one had yellow fever.

The fact that hemorrhagic stains, when subjected to the use of hot water, may yield a venomous miasm, has been noted more than once. The case I have detailed is a contribution to the literature of the subject.

I cite the fact, that although excreta may generally act as they did in the case of the young man Myers, yet such action is not invariable. An illustration is found in the circumstance noted in concluding an account of his case.

How is the miasm to be destroyed which arises from the excreta ejected over clothing and in vessels, privies and sinks? How are we to prevent the development of new cases from the poisonous emanations of old ones? My experience leads me to believe that a satisfactory answer can be found in thorough disinfection.

As to quarantine, when the strong arm of the general government seizes a city or village in which yellow fever prevails, and remorselessly isolates that community until all danger is past, then quarantine will save human life, but so long as quarantine regulations are to a certain extent voluntary, they will be enforced just so long as the predominant mercantile interests fear death more than they love money,—a period of time which never lasts longer than the first few weeks of a yellow fever panic.

ARTICLE II.

VICARIOUS MENSTRUATION. By WALTER COLES, M. D., of St. Louis, Mo. [Read before the St. Louis Obstetrical Society, June 19th, 1879.]

Although somewhat rare, the subject of what is commonly known as *vicarious menstruation*, is of sufficient interest and importance to warrant much more attention than it has received at the hands of most writers on the diseases of women. Normal menstruation, especially since its connection with ovulation was first distinctly promulgated, a little over a half century since, has given rise to much speculation among physiologists, and we are familiar with the various doctrines which have been held in relation thereto; though it must be confessed that, in many respects, we are as yet groping in the dark, with but little more than theories to guide us in our study of this most intricate and interesting subject.

In our systematic treatises on gynæcology, menstruation and its disorders have always occupied a prominent place; yet, strange to say, the possibility of its vicarious occurrence is, by some, not so much as hinted at, whilst others content themselves with the bare statement that such a phenomenon is occasionally encountered. Others again allude to the subject only to express doubts as to any such physiological abnormality.

That the mensual discharge of blood peculiar to the human female, from the age of puberty to the end of the child-bearing period, may take place from other sources than the interior of the uterus, is a fact which is now sufficiently well attested. Instances of the kind have doubtless fallen to the experience of us all, and have been vouched for by many of the most careful and reliable medical observers.

The term vicarious menstruation is, however, in the sense in which it is generally employed, not strictly correct, though it is certainly more expressive than "*supplementary*" menstruation, as used by Scanzoni, since this does not convey the meaning intended. Barnes employs the apter term "*ectopic*" menstrua-

tion, but even this does not cover all cases embraced under this head, for a distinction should be drawn between ectopic hemorrhage and leucorrhœa, for example, which coming directly from the uterus, merely takes the place of the menses. These are all more properly cases of *perverted* menstruation; the normal discharge being either changed in character, or else flowing off through unnatural or perverted channels.

It has been contended by many that these perverted menstrual bleedings always take place either from some free or mucous surface connected with one of the normal outlets of the body. Trousseau is emphatic in his enunciation of this as a physiological principle. Others again, recognize its possibility in any locality or tissue of the body containing blood vessels, and in this way account for some cases of hæmatocele and apoplexy. Experience, however, teaches that serous membranes enjoy a remarkable immunity from such hemorrhages, which seem at the same time more prone to discharge themselves from certain localities than from others. For example, the vascularity and fragility of the Schneiderian membrane favors the nostrils as a source of effusion. We all know that in young girls approaching puberty, and before the uterus is fully prepared to take on its mature function, bleeding at the nose is not uncommon. According to Churchill, "the more extensive mucous membranes (pulmonary and intestinal) are, however, the ordinary seats of discharge," although instances are recorded in which the effusion has taken place from almost every conceivable portion of the body, though the discharge often selects some weak point, as for instance, a hemorrhoidal tumor, an ulcer, a wart, or a diseased gum, etc. Instances are not wanting, however, in which the hemorrhage has occurred from the skin in general, the nipples, ears, eyes, umbilicus, tongue, tonsils, air passages, stomach, rectum, bladder, edges of toe and finger nails, etc. Among the most frequent, and, indeed, not uncommon, vicarious discharges other than blood, is a profuse diarrhœa, or leucorrhœa, at or about the time of the menstrual nisus.

It has been observed that the quantity of blood lost is generally less, rather than in excess of the normal menstrual flow. The locality of its exit perhaps has something to do with the quantity and method of discharge. Occasionally it comes in one free gush, and all is over, but much more frequently in slight continuous hemorrhage or oozing, lasting about the usual time of

menstruation. But few cases are recorded where the hemorrhage has been sufficiently profuse to imperil life, and in the extremely rare instances where death has occurred, it is probable that some other element than the menstrual nisus influenced the result—a fact which the prudent practitioner should never lose sight of. A remarkable case of this kind is reported by Dunlap, in the *Edinburgh Journal* for April, 1850. A young lady, who is reputed to have had vicarious menstruation from the mouth and gums, discharged at each period the enormous quantity of six quarts of blood; finally, having been much prostrated, she was cupped for pain in the side, when death ensued from uncontrollable bleeding from the scarifications. There was doubtless a strong development of a general hemorrhagic diathesis in this case.

Vicarious menstruation may be entirely vicarious, *i. e.*, it may entirely supplant normal menstruation, or it may be partial. It may occur in cases where there is complete amenorrhœa, or where the normal discharge is simply scant. Again, it may alternate with normal menstruation. Whilst it generally continues only during a limited period, it may persist indefinitely, or it may commence vicariously at puberty, and so continue up to the change of life. Under whatever circumstances, this strange affection is worthy of grave consideration, since it always indicates a profound disturbance of health. We will proceed to relate one or two cases which have fallen under our observation, since they are not without interest and instruction. The first case led to a mistaken diagnosis, and to the entailment of much inconvenience and expense upon the lady interested.

Miss M., æt. 27, of spare and delicate physique, with fair complexion, dark hair and blue eyes, by profession a teacher. At the time that I saw the patient, she had just retired from the chief control of quite a large female seminary. She had experienced several slight hemorrhages from the lungs, and these spittings of blood recurring from time to time, alarmed her and her friends, so much so, that she was advised to take a brief vacation, which she accordingly did, and availed herself of this opportunity to go on to Brooklyn for the purpose of consulting a physician in whom she had great confidence. He heard the history of the hemorrhages, examined her chest, and advised the lady to abandon her school, and to adopt prompt measures for warding off phthisis pulmonalis, the incipient symptoms of which were supposed to be already apparent. The patient returned at once

to her former home for the purpose of disposing of her interests in the seminary under her charge, and remained for several months closing up her affairs. It was during this time that I first saw her, and had an opportunity of observing the case. I paid my first visit about two weeks after a hemorrhage, and found the patient in apparently as good health as usual. Although, as I have said, she was naturally spare, her complexion was clear and healthy; the pulse was normal, no cough of consequence except at the time of hemorrhage, and shortly after; no persistent expectoration. Upon careful auscultation and percussion, no lesion of any of the thoracic organs was discovered, although I was informed that her Brooklyn physician had pronounced the lungs "weak." I learned that menstruation for a year previous had been rather painful, and either very scant or entirely suppressed. The idea of any connection between the menstrual molimen and the pulmonary hemorrhage had not occurred to her, nor was it suggested by me at first, though I suspected it, for the reason that she remarked of her own accord, that it was a strange fact that her hemorrhages came on about a month apart.

I contented myself by prescribing a tonic, advised free exercise in the open air, and promised to call again, requesting at the same time to be notified should hemorrhage recur. On the thirtieth day from the preceding attack, I was summoned to find the patient expectorating occasionally a mouthful of red frothy blood. The cough was not severe, and auscultation revealed a few moist râles pretty well distributed over the upper portion of both lungs. On the third and fourth days, there was slight subcrepitation over nearly the whole of the lungs, more marked towards the apices. The bleeding, which gradually subsided by the fifth day, was accompanied with but little systemic excitement. The quantity of blood lost was not more than is discharged at an ordinary menstruation, which in this case did not occur. In the course of a week, all trace of lung disturbance had subsided, and the patient was apparently none the worse for what had happened.

With the lights before me, I felt sure of my diagnosis, and assured my patient that there was no serious disease existing in her lungs, nor was there any good reason why she should permanently abandon her profession. Unfortunately, she had disposed of her late interests, and was compelled to build up her fortunes in some other field. This lady, after having one or two

recurrences of hemorrhage, passed from under my care. I learned, however, that she recovered her normal menstrual function with the restoration of general health, whereupon all pulmonary manifestations ceased. There was in this case, so far as I could learn, nothing done beyond a general tonic and hygienic treatment, with the exception of warm sitz baths at the menstrual epoch.

VICARIOUS MENSTRUATION SIMULATING PNEUMONIA:—Miss D., æt. 19, small and delicate, commenced to menstruate at 16; flow generally scant and accompanied with pain. On the occasion that I saw her, she had suffered from several exacerbations of malarial fever. The menses appeared slightly on Sunday, and on that evening she was caught in a shower of rain, which seemed to bring on suppression. On Monday following, after slight chilliness, there was fever and slight cough, accompanied with expectoration of the peculiar tenaceous rusty colored sputa so characteristic of pneumonia. Indeed, seeing the patient with fever and cough, and observing the nature of the sputa, one would almost irresistibly conclude that there was pneumonia; yet there existed no pain in the side, no difficulty of respiration, neither was the cough of that constant and suppressed character usual in the early acute stages of this disease. The thermometer showed a temperature of 102½°. Most careful physical examination failed to detect any traces of pulmonary inflammation. This was at 3 P. M. A capsule of Dover's powder and quinine was administered, and at 8 P. M. I returned to find the patient nearly free from fever and of all particularly disagreeable sensations. Next morning the temperature was 99°, at which point it remained until Thursday, when it indicated a normal condition, quinine having been in the meantime given for the malarial fever. I should remark that the peculiar pneumonic-looking expectoration continued up to Wednesday night, when it disappeared almost as suddenly as it commenced, the lungs in the meantime evincing no sign of disease, and on the next day the patient was going about as usual. This case, although extremely puzzling at first, owing to the incidental presence of fever having no connection with the sanguinolent sputa, was an indubitable case of perverted menstruation.

We might mention several other instances of this kind which we have met with in practice, especially of those not uncom-

mon forms of vicarious discharge in which the menstrual nisus passes off in an apparently sudden and unprovoked diarrhœa, leucorrhœa, or an attack of bleeding piles; but the interest attaching to such cases is not so great, for anatomical reasons, as where some distant organ assumes a function essentially foreign to itself. This latter category of cases may indeed be said to constitute a distinct class for the study of the physiologist and pathologist, and opens up several intricate and interesting questions which have not as yet approached a satisfactory solution.

It will be observed that in neither of the cases which have been detailed was there anything like a plethoric condition of the system; on the contrary, both patients were naturally delicate, possessing no superfluity of blood. It would prove exceedingly interesting and instructive if authors who have reported such cases had been more explicit in their observations as regards the physical character of the subjects of these perverted hemorrhages. Our own experience has led us to conclude that this phenomenon is most commonly met with in frail, delicate women. When an opposite condition of system exists, we have more frequently encountered vicarious discharges proper, such as leucorrhœa, diarrhœa, etc. Dr. Playfair seems to have had a somewhat similar experience. He says: "This strange deviation of the menstrual discharge may be taken as a sign of general ill health, and it is usually met with in delicate young women of highly mobile, nervous constitution." On the other hand, cases cited by Bedford would indicate that his patients thus affected, were exceedingly plethoric, and that the hemorrhagic discharges were merely efforts of nature to rid the system of a redundancy of blood. Indeed the explanation of this peculiar manifestation, by most writers, is based upon a similar hypothesis.

As has already been remarked, the process of menstruation has, from the earliest times, been surrounded by a certain amount of mystery and uncertainty; hence the difficulty of discussing intelligently the pathological-physiology of the subject before us. We are here reminded of the remark of an eminent author when he asks "why, when the whole book is unintelligible to us, should we expect to comprehend one chapter?" Nevertheless, there is something in the very incomprehensibleness of vicarious menstruation which challenges our attention and affords an interesting theme for reflection. Men are frequently taught more wisdom in defeat than in victory; so it seems to us that a

study of this abnormality is not wanting in negative light, calculated at least to shake our confidence in some of the doctrines taught, not only in regard to the mechanism of perverted, but likewise in respect to the physiology, of true menstruation.

So far as local influences are concerned, Emmet and others have presented plausible reasons for the non-appearance of natural menstruation, based upon the well-known fact that at each monthly molimen the lining membrane of the uterus undergoes certain changes preparatory to the bloody discharge. In consequence of local morbid conditions, however, these changes become faulty and imperfect, rendering menstruation difficult or impossible of accomplishment. In this way Emmet accounts for certain cases of amenorrhœa, or, it may be, he says, that "the excess of blood is thrown back upon some other organ or portion of the body for an outlet, and its escape at the menstrual period by an unnatural channel is termed vicarious menstruation." This is but another mode of expressing substantially the old doctrine of "*plethora*," and of accounting for the hemorrhage, whether from the uterus or elsewhere, as a necessary relief to an overloaded vascular system. But the "*safety-valve*" doctrine of menstruation, as commonly expounded, and so universally accepted in explanation of its vicarious discharge, whilst in many respects plausible, is nevertheless open to many objections. Nature's laws are too uniform and too perfect to admit of as many exceptions as can be adduced against such an hypothesis as this.

That menstruation, whether vicarious or otherwise, does affect a salutary depletion, without which the system may suffer both generally and locally, is not denied. But that its prime object is to relieve the female economy of a certain amount of blood, the retention of which would overdistend and oppress the vascular system beyond its mechanical endurance, certainly cannot be accepted as a physiological law. Such a theory, which *looks no deeper than the circulation*—to its repletion on the one hand, and to its depletion on the other—is both superficial and crude, and cannot stand certain pathological tests to which it can be subjected. Take, for instance, a woman who, after a prolonged labor, is delivered of a dead child; she convalesces satisfactorily, but the menstrual function never returns, as we have known to be the case, on account of extreme atrophy of the uterus. The ovaries, however, remain intact, and ovulation goes on regularly, as is manifest at each monthly molimen. Although such a woman

has no *waste-gate*, no *safety-valve*, through which her blood-pressure is relieved, we generally look in vain for the advent of dangerous plethora. On the contrary, the blood-pressure grows *less* as time rolls on, and in a majority of instances the patient becomes anæmic, becomes chlorotic, the nervous system bearing the brunt of the burthen. We mention such a case because here there had already been engrafted a "*habit*" of menstruating (another term common in the literature of this subject), and hence it is perhaps a stronger illustration than that of young girls with ovaries, but without uteri, who never having menstruated, still maintain fair health for a good portion of active ovarian life, and if they finally grow ill, it is not usually from an overloaded vascular system, but in the direction of chlorosis. Notwithstanding what has been termed nature's "waste-gate" is closed in these cases, we but seldom find such persons subject to vicarious discharges, which would uniformly occur if mere depletion were as imperative as has been contended.

But there is another class of cases which affords conclusive evidence that mere blood-pressure is not an essential element of menstruation. We allude to the fact that this discharge is not ordinarily suspended by large losses of blood, accidentally occurring at the time of the monthly nisus. Instances of this character are too numerously recorded to need citation. Finally, how and why is it, that vicarious menstruation not uncommonly occurs in feeble, delicate women? This is a question which the present state of science does not permit us to answer with confidence, yet pathology offers certain clues that are perhaps valuably suggestive. For whilst we know that a woman bled to the verge of syncope immediately preceding a period, may still go on and menstruate as though nothing had occurred, we also recognize the fact that a sudden emotion is capable of stopping the flow instantly. A sudden chilling of the feet is a familiar cause of suppression. The menses which are regular, and in all respects normal up to marriage, may cease to appear for a few months thereafter, without the intervention of pregnancy, but solely through the influence of the new life upon which the female has entered. Now how are we to account for these things? These and many other phenomena connected with menstruation, seem indeed confusing and perplexing, and any attempt at solution must needs be unsatisfactory in the present condition of our knowledge, although they clearly justify us in assuming that the

nervous system plays a far more important role in this department of the female economy, than has generally been attributed to it.

That there is an intimate relationship between menstruation and ovulation, has been sufficiently demonstrated. Ovulation may occur without menstruation, but the reverse is so exceedingly rare, as to be accounted a physiological curiosity. This phenomenal occurrence has been ascribed to *habit*, but we suspect that the real solution rests upon a very different physiological principle, which is susceptible of explanation, a principle not yet developed, but to which allusion has already been made, and which we believe constitutes the basis of the functions under discussion. We allude to the nervous influence over the ovarian and uterine functions.

So far as we remember, no instance is recorded where menstruation has occured after removal of both ovaries during childhood, or before the period of maturity; nor do we know of a case where menstruation has continued permanently after extirpation of the ovaries. These facts are susceptible of but one interpretation, and that is, that the ovaries and uterus are supplied with filaments from certain specific nerve centers which preside over those fundamental nutritive changes essential to ovulation and menstruation. These centers are not developed—not fully capable of discharging their functions until the age of puberty, and when the ovaries are removed anterior to this period, these nerves cease to grow, as is the case with certain branches distributed to the testes of animals castrated when young. But it is easy to conceive that in a few instances of ovariotomy in the adult, there may remain for a time, sufficient vitality or irritability in the severed ends of such filaments, as to maintain temporarily a specific synergetic influence upon the uterus, producing menstruation. In time, these nerves undergo partial atrophy, returning as it were, to the childhood state, and cease to influence the uterus subjectively, just as the nerves in the stump of an amputated limb gradually cease to annoy its possessor with false sensations, so soon as all irritation is removed from their divided extremities.

We have thus digressed somewhat, but chiefly for the purpose of illustrating and paving the way in advance for certain propositions, which we propose briefly to elaborate in regard to the

nature of menstruation, and of some of its abnormalities. We beg leave to formulate these propositions as follows:

1st. Both the ovaries and uterus are in intimate connection with certain nerve ganglia, which preside over the nutritive changes incident to ovulation and menstruation.

2d. It is reasonable to infer that some of the aberrations of ovulation and menstruation are dependent upon disordered nerve function *solely*.

The researches of Lee and others, have fully demonstrated that the uterus and ovaries are far more abundantly supplied with nerves, than was formerly supposed. Moreover, that these nerves undergo marked development at the age of puberty, and still more marked changes during pregnancy. As Dr. Tyler Smith remarks in his profound work *On Parturition*, "The plainest facts of physiology, as well as the analogies and facts of anatomy, demand more extensive endowments for the uterus as the principal organ of generation in the female. * * * There *must* be nerves, and there must be nerves *sufficient* for the functions to be performed." If this assumption was true thirty years ago, how much more emphatically are we justified in reiterating it to-day, when we bear in mind the immense strides that have been made in nervous physiology since Lee dissected and Smith wrote! Now that we are beginning to gain an insight into the wonderful sympathies and energies stored up in the ganglionic system, by which nearly every step in circulation, secretion and nutrition is regulated and perfected, is a proper time to turn our attention in the direction of a field hitherto almost neglected, but which promises a rich harvest for the physiologist.

Although for reasons susceptible of explanation, ovulation and menstruation do not invariably go hand in hand, yet the same physiological law and the same moving force which governs the maturation of the Graafian vesicle, also works those changes in the uterus culminating in menstruation. Pathology would indicate that it is not the mere excitement in the ovary, coincident with the rupture of the follicle, which induces menstruation as a sort of second link in the chain of events, (which is commonly taught) but they are both practically cotemporaneous results of a common cause, that cause being a specific endowment of certain nerve centers. We admit that such centers are at present purely hypothetical, but every analogy and every principle of physiology, so far, leads to a strong presumption of their exist-

ence; of the existence of store-houses of generative force, so to speak, which in accordance with a law peculiar to different animals, discharges itself at certain periods. When the innervation of the generative organs shall have been studied with something of the same method and minuteness which has characterized that of the heart in recent years, we predict a new era in the physiology of this subject.

It is difficult to think of menstruation as being simply a hemorrhage in the ordinary sense of that term. The influence upon its flow of emotional and other nervous perturbations has already been alluded to. But there are other physiological considerations that should be borne in mind in this connection; we should remember that under certain circumstances, according to Cohnheim, it is possible for blood to escape from its containing vessels without an actual rupture of their walls. Virchow also states that on microscopic examination he has observed small solutions of continuity in capillaries, minute arteries and veins, through which single blood globules have escaped one by one, whilst the current has gone on uninterruptedly. When, however, the gap has become larger, the circulation may be stopped in the vessel and the current sets in from all sides towards the orifice. After the escape of a certain amount of blood, the leak is repaired and the circulation continues as before. Handfield Jones, although not speaking from actual observation, believes that some such change in the blood vessels occurs in normal menstruation, and is co-existent with the lowering of nervous power. Coste, who has closely studied this subject, believed that the blood transudes through the coats of the capillaries without any laceration of their structure. Farre contends that the uterine capillaries terminate in open mouths, through which blood is prevented from flowing during the intermenstrual period by muscular contraction. While most other observers hold that the discharge is due to a shedding or breaking up of the deciduous lining of the uterus. In view of all these facts, are we not justified in assuming there is truth on both sides, and in concluding that menstruation is the result partly of a "*liberating*" nerve force, and also partly incidental to nutritive metamorphoses taking place in the uterine mucosa?

Assuming, as we do, that this is the source and nature of menstruation, it follows that in order to insure its natural production, there must exist a degree of healthfulness in the innervation

and nutrition of the ovaries and uterus. And, as a matter of fact, we know that any marked deficiency in either one of these factors *does* produce aberration of function. We can thus understand how amenorrhœa may, among other causes, result from a *neurasthenia* or prostration of those nerve forces which are wont to discharge themselves monthly through the organs of generation. We are satisfied that such cases are met with in practice; they are for the time being sapped of that mysterious fundamental power which quickens and ripens the Graafian vesicle. In such women the ovules may not mature, and they are to all intents and purposes as impotent as though they possessed no ovaries. Their generative force is sometimes so completely in abeyance as to create no monthly disturbance indicative of a distinct menstrual nisus, they complain only of general indisposition, or possibly of symptoms of a most misleading character, located it may be in distant organs.

Very different is the state of things, however, when the nervous energies of the uterine system are still effective, but merely diverted, or reflected into other and unusual channels. In this case the monthly explosive force expends itself in other directions and in divers methods, one of which may be the so-called vicarious or ectopic menstruation.

As already stated and illustrated by the cases detailed, this perversion of menstrual function *cannot be justly ascribed to the mechanical influence of blood-pressure simply*, but is rather the expression of an aberrant distribution of nerve force. The varied and complex connections, direct and indirect, of the nerve plexuses supplying the uterus and ovaries, readily explain the far-reaching sympathies of these organs. Yet it is probable that we may never clearly discover the proximate causes determining the seat of vicarious discharges in one particular spot rather than another. But that such hemorrhages *do not break forth at random*, we have abundant demonstration in cases where the eruption has occurred in localities rendering it possible to watch the process throughout. In such instances it has frequently been observed that the parts involved undergo rapid nutritive changes *preparatory to the flow of blood*. For example, several authors have reported cases in which the large papillæ on the dorsum of the tongue have suddenly became enlarged and prominent, culminating in a sanguineous discharge. Blundell mentions a case, occurring under his own eyes in St. Thomas' Hosp., in which the hem-

orrhage took place every three weeks (the period to which the patient was accustomed) from a sore on the back of the hand, and he adds the significant comment that "in this case it is worthy of remark that there was, some two or three hours before the commencement of the eruption, a throb in the course of the radial and ulnar arteries." So marked is this preparatory process in some instances, that Dr. Tyler Smith has actually referred to it as illustrating similar changes occurring in the mucosa of the uterus previous to and during normal menstruation. He says: "In these cases an ulcer upon any part of the surface of the body may skin over, or assume healthy granulations during the intervals of menstruation, but on the occurrence of the period, the newly-formed skin gives way, or the healthy granulations slough, and blood exudes from the surface for several days, after which the ulcer heals, or puts on a healthy aspect, until the approach of the next catamenial period." How far occult, but all sufficient changes of nutrition may occur, calculated to induce hemorrhage from internal tissues, we of course have no means of determining, but because hidden from the eye, we are not justified in denying their possibility.

But here again pathological analogies present themselves, tending to lend additional support to the views we have advanced. For we have already seen that the menstrual molimen may pass off in other ways than through a discharge of blood, as for instance, in the form of diarrhœa, salivation, or in the shape of a cutaneous eruption, such as eczema, prurigo, acne, erythema, etc., many instances of which are recorded. Indeed, the association of acne with menstrual irregularities, especially in young girls, is exceedingly common. Not only does the accumulated nerve-force of the female generative system, when deflected from its natural channels, expend itself in the manner indicated, but there is every reason to believe that it not uncommonly discharges itself in periodical nervous explosions *solely*, as in epilepsy, catalepsy, and more frequently hysteria. If time permitted we might cite several cases illustrative of this fact. All these affections may at times be properly regarded in the light of vicarious menstruation, or, in other words, as a perverted method of relieving over-charged nerve-ganglia. We can perhaps all readily recall instances of violent hysterical paroxysms occurring in amenorrhœal subjects at the time of the menstrual epoch. There is additionally in these cases, one or the other, or

all of the usual concomitants, vomiting, lachrymation and diuresis. After one of these attacks the patient is left calm and comfortable until the next *period* ushers in another similar paroxysm. Other curious forms of what seems in some instances tantamount to vicarious menstruation might be referred to, but we will content ourselves with only reciting one reported by Villartay, and mentioned by Churchill. It is that of a young girl who suffered from amenorrhœa for a year. Each month she slept for three or four days at the proper period for menstruation; she had no affection of the head, the sleep was apparently rational, and after the catamenia returned it entirely ceased.

If there is anything in the line of thought which we have endeavored to present this evening, it leaves us one of two alternatives in our remarks on the subject of *treatment*: they must either be very prolix or exceedingly brief. Having already trespassed sufficiently upon the patience of the Society, we have concluded to adopt the latter course. Our object has been rather to suggest, in a general way, the importance of studying the pathological and physiological peculiarities of all such cases, individually and separately, without reference to either dogma or routine. If it be true that the nervous system constitutes as important element in the pathology of this class of disorders, as we have so imperfectly endeavored to show, then the therapeutic deductions are easily drawn, and we perhaps have a key to the great uncertainty of that class of drugs known as emmenagogues. We believe that the day is not far distant when clearer principles of pathology founded on a more enlightened physiological knowledge, will naturally open the door to sounder and more rational methods of treatment.

Translations from the French.

NEW MODES OF SURGICAL TREATMENT. ("Histoire de la Chirurgie Française" par le Docteur JULES ROCHARD. Edit. 1875, pp. 639, *et seq.*) Translated for THE JOURNAL by B. A. WATSON, M. D., Surgeon to Jersey City Charity and St. Francis' Hospitals, Jersey City, New Jersey.

PERMANGANATE OF POTASH.—This agent acts in an entirely different manner; it is not a parasiticide, it is an agent of combustion; it does not neutralize the germs of putrefaction, it destroys them by the energy of its oxidizing power. The properties had been known in chemistry a long time, when in 1859 Condy proposed it as a disinfectant in wounds, and it has already been employed a long time for this purpose in England and America under the name of *Condy's fluid.*[1] Demarquay, who had been a witness of its good effects, determined to have recourse to it in the municipal hospital in analogous cases in the proportion of from four to six drachms to three ounces of water. This solution employed as a wash or an application on pieces of charpie, had constantly the effect to make instantaneously disappear the odor of the worst infected wounds as well as to disperse the offensive odor of ozena and that produced by the profuse perspiration of the feet. Demarquay communicated these results to the Academy of Sciences, April 27th, 1863. The 23d of June following, Blache, read to the Academy of Medicine, a very detailed report on the same subject, on the occasion of a memoir offered by Castex, surgeon-in-chief of the army,[2] and his conclusions were the same as those of Demarquay. The German journals reproduced, at the same time, facts of the same nature, and the permanganate of potash, which commended itself by its perfect solubility, its beautiful color, the complete absence of all odor, and the readiness of its application, took definite rank in surgical therapeutics. We are far from having passed in re-

1. Condy, Proprieties désinfectantes des permanganates alcalins, Paris 1867.
2. Blache, *Bulletin de l'Académie de Médecine*, t. xxviii, p 821.

view all the disinfectants which were proposed at the time of the antiseptic furore, and we do not intend to mention all. We will limit ourselves to citing, first, the extract of logwood, praised in 1862 by P. T. Desmartis of Bordeaux;[3] second, alcohol with guaica, described by Pascal in 1863, in a note to the Academy of Sciences;[4] third, bromine, which possessed a great reputation in America during the war of secession, as an antidote for hospital gangrene; fourth, turpentine, with which Dr. Werner obtained the best effects in connection with bicarbonate of soda among the numerous workmen in the factory of Dollfus A. Mulhouse;[5] fifth, sea water has been recommended by a Belgian physician, Victor Dewandre, as an excellent disinfecting agent and even as a preventive of purulent infection, in a pamphlet which was awarded a prize by the Medico-Chirurgical Society, of Liege;[6] sixth, petroleum oil, which made its appearance on the therapeutical scene in 1870 under the auspices of Fayrer;[7] seventh, the tincture and the aqueous extract of eucalyptus, the remarkable properties of which were recognized by the indefatigable experimenter of the municipal hospital in 1872;[8] eighth, finally chloralum, the last born, the most complete of the disinfectants which appear at this moment the fashion in England and for the manufacture and sale of which there has already been formed a *chloralum company*.

VILLATTE'S LIQUID.—We will not be able to omit mentioning Villatte's liquid, although it does not belong to the class of disinfectants, but it resembles them in its properties. It has recently fixed the attention of surgeons, and we think for this reason we ought to accord to it a brief mention. This strange composition, of which all the elements react one on another, and which recalls the empiric formula of the old pharmacopœas, was invented

3. *Répertoire de Pharmacie*, No. 12, t. xviii.

4. Séance du 12 Octobre, 1863.

5. *Bulletin de thérapeutique*, 1865, t. lxviii, p. 219.

6. Dewandre, du chlorure desodium dans le traitement des plaies en général. Liege, 1865, extract in *Union Medicale*, 1865, 2d serie, t. xxvii, p. 62.

7. *Gazette Hebdomadaire*, 1870, p. 147.

8. Bemjamin Anger, *Pansement des plaies Chirirurgicals*, thèse eltee. p. 134.

9. D'apes l'analyse de Fleck (de Dresde), le chloralum est une solution aqueuse de chlorures d'aluminium de plomb de cuivre de fer et de calcium (*Abeilee Médicale* du 29 Octobre 1873, No. 42, p. 406.

in 1829 by a veterinary surgeon whose name it bears.[10] Until 1863 it had been employed only on animals; at this time, Dr. Notta, of Lisieux, influenced by fine results obtained by the use of this complex liquid in diseases of the bones and tendons in animals, determined to have recourse to it in the treatment of the diseases of men. His first trials were sufficiently encouraging, and he believed it to be his duty to publish them, and two years afterwards he made known the results of further investigations.[11] Under the patronage of this distinguished surgeon, the employment of Villatte's liquid was not slow to spread; it was experimented with in the service of Velpeau. Nelaton, Desormeaux, Houël, Labbe, found its use advantageous, whereas Chassaignac, Legouest and Leon LeFort, did not laud it.[12] In the course of the discussion which was raised on this subject in the surgical society, they charged it with causing atrocious pain, with exciting an extremely active inflammation, which was not always easy to subdue. Legouest cited even a case of fatal poisoning. Two cases of the same nature were published in the German medical journals in 1867, and were reproduced by the *Gazette hebdomadaire*,[13] and only served to instill in the minds of prudent practitioners, a distrust of this treatment borrowed from the veterinary surgeon. Notta made an effort to show, it is true, that accidents should be attributed to the bad composition of the remedy, or the vicious manner in which it had been used; but nevertheless, Villatte's liquid had the reputation of causing great pain, the employment of which demanded great precaution, and which ought to be managed with certain prudence. It is only applied in the treatment of carious bones, systematic abscesses and fistulous tracts.

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10. La formule est la Suivant. Sous-acétate de plomb liquide 30 grammes; sulfate de cuivre cristallise, sulfate de zinc cristallisé 15 grammes; Vinaigre de vin blanc, 200 grammes. A. Notta, de l'emploi de la liqueur de Villatte dans le traitement des affections chirurgicales. Paris, 1869, page 4.

11, Notta Note sur l'emploi de la liqueur de Villatte dans le traitement de la carie et des fistules consecutives aux abces froid. *Union Medicale*, 1863, t. xvii, p. 424. Nouvelles recherches sur l'emploi de la liqueur de Villatte, par le docteur Notta. (*Union Medicale*, 1866, t, xxix, p. 99.) Ces mémoires, qui ont val lu à l'auteur une distinction l' académique sont reproduits dans le volume de 1869.

12. Séance de 2 mai 1866, *Bulletin de la Société de chirurgie*, 2d, serie t. vii, p. 191.

13. Virchow, Archiv für pathol anatomie, 18 November, 1867. *Gazette hebdomadaire*, de 14 fevrier 1868, p. 108.

3D. THE ALCOHOL TREATMENT.—The interest inspired by the question of disinfectants had not yet died out when the attention of surgeons was called to another method which recommended itself by its simplicity and its ancient origin. It was no longer a question of the effect of a new product of modern chemistry, but it was one of the most common agents, and one very generally used in therapeutics. Alcohol has been employed in the treatment of wounds by surgeons of all ages. A. Pare, Dionis, Percy and Larrey were acquainted with its medicinal virtues, and the laity have never lost sight of them. All the balsams and the vulneraries owe their principal curative properties to alcohol, from the balsam of the centenary plant to the tincture of arnica, which the laity still consider a panacea, and the tincture of camphor, which the works of Raspail have restored to fashion in certain classes of society. It was, therefore, without surprise that the Academy of Sciences received, in 1859, a memoir in which Batailhé and Guillet reported their experience on the employment of alcohol and alcoholic compounds in surgery. [14]

Lestocquoy, of Arras, in 1848, and Prof. Dolbeau, in 1859, had used it before them, but without attaching to it any great importance, and the memoir of Batailhé and Guillet had itself passed almost unperceived, when in 1863 Nelaton adopted this mode of treatment at the "Hospital des Cliniques." [15] The results were very satisfactory. The wounds were maintained in a state of strict cleanliness, and preserved their ruby aspect under the cover of a light film of plastic lymph, and cicatrization appeared to progress more rapidly than by any other method. Secondary accidents were almost always averted, and among ninety-seven patients thus treated they reported only two cases of purulent infection and five of erysipelas. These facts were brought before the public by two internes of their service—Chedevergne, now professor in the medical school of Poitier, and De Gaulejac.[16]

14. Séance du 16 août, 1859 (Comptes rendus, t. xlix, p. 258). Leur mémoire a été imprimé la même année sous ce titre: De l'alcool et des composés alcooliques en Chirurgie, par J. F. Batailhè, Paris, 1859.

15. Nélaton imbibait de la charpie avec de l'eau-de-vie camphree l'appliquait sur les plaies en couches épaisses, en recouvrant le tout d'un morcean de taffetas ciré pour empêcher l'evaporation.

16. Chedevergne, du traitment des plaies chirurgicales par les pansements à l'alcool. (*Bulletin de Therapeutique*, 1864, t. lxvii, p. 249, 308, 346.) De Gaulejac. Du traitment des plaies par l'alcool, thèse inaugurale, Paris, 1864.

Chedevergne had discovered, moreover, that the alcohol decomposes pus, removes its odor, and converts it into a greasy albuminous substance. He had seen with the microscope the purulent globules instantly dissolve on contact with the alcohol. Following this publication the use of alcohol spread still more rapidly than that of the disinfecting powders. Every one hastened to experiment with a remedy which was always at hand. Marc Sée, in a memoir read to the Society of Surgery, December 12th, 1866, confirmed the facts observed at the "Hospital des Cliniques," and presented alcohol as a prophylactic in purulent infection. This last conclusion appeared a little hazardous to some of the members of the society, and especially to Velpeau and to Hippolyte and Larrey. The fact is, that even at the "Hospital des Cliniques" and under the eyes of Nélaton, cases of purulent infection had occurred during the course of this treatment, and that this was demonstrated elsewhere. We will further on express more fully our opinion as to the prophylactic value of all these modes of treatment; for the present we will limit ourselves to stating that alcohol, being always within reach, may have its advantages, and that the surgeons who have restored its use have rendered a true service.

Translations from the German.

PATHOLOGY AND THERAPEUTICS IN OPHTHALMOLOGY. [Taken from Prof. NAGEL'S *Jahresbericht ueber dei Liestungen und Fortschritte im Gebiete der Ophthalmologie.*] By S. POLLAK, M. D., Surgeon to the Eye and Ear Infirmary of the St. Louis Hospital.

DISEASES OF THE CORNEA.

EMMERT, (Arch. f. Angen u. Ohrenh), noticed in a child aged 6 years, a *congenital leucoma*, which was crescent-shaped, intensely white, occupying the lower aspect of the cornea. Touches with aq. chlorii and a solution of salicylic acid effected a cure (?)

FEUER (Transactions Acad. Science, Vienna), experimented on rabbits, the cause of *keratitis neuro-paralytica, after division of the trigeminus.* Section of the trigeminus does not impair directly the nutrition of the cornea, nor diminish its power to external causes. The keratitis is due entirely to the impossibility of closing the lids. The exposed, unprotected cornea within the palpebral commissure is dry, mummified, necrosed, and becomes the incéntive of reactive inflammation of the adjacent tissue. The inevitable xerosis is accelerated by diminished lachrymal secretion. This keratitis neuro-paralytica (xerotica) cannot be produced by traumatism, and can be in a measure prevented by closing the lids artificially.

LASVENES (*Gaz. des Hosp.*) reports a case occurring in Brocas' clinic of a *rupture of the cornea*, with traumatic cataract and anterior synechia, which caused sympathetic ophthalmia in the other eye, and had progressed so far that the patient could not walk alone, but which entirely disappeared after an iridectomy *of the injured eye.*

GRAND (*Lyon Medical*) mentions two cases of foreign body in the cornea. In one a piece of iron 8x1 mm. had lodged between the layers of the cornea for five months, without causing a reac-

tion. The other, where a foreign body could not be removed from the cornea, and only after a month caused ulceration and fistula of the same, but which closed again without the removal of the offending body.

HOCK (Oester. Jahrb) recommends a collyrium of tannin—3ss ad ℥i—not only in phylctænular, but also in parenchymatous, keratitis. He claims that blepharospasm (photophobia) quickly disappear. He prefers it to the yellow oxide treatment. [My experience does not support these claims. S. P.]

TARRIEUX (*Thèse de Paris*) distinguishes three classes of corneal ulcers—*sthenic*, *asthenic* and *dystrophic*. The first occur in healthy persons, are characterized by symptoms of inflammation, and heal readily. The second penetrate deeper, and occupy the center of the cornea; without any striking inflammatory symptoms, are found only in bad constitutions. The third class comprises those arising from an impaired nutrition of the cornea, by either an increased tension or a neuro-paralysis of the same.

CRITCHETT (*Med. Examiner*) tells of a physician who had wounded his eye with a vaccinating lancet. In spite of immediate washing and cleansing a violent inflammation ensued in twenty-four hours. In the outer lower third of the cornea a seropurulent infiltration, with elevated center, developed itself, which terminated in a large leucoma.

VOSE SOLOMON (*Lancet*), in case of *pannus*, where the sclera and margin of the cornea were equally red, and the center of the cornea somewhat raised, infiltrated, yellowish white, made a free vertical incision through the cornea with a Graafe knife. The wound healed in a few weeks, cornea cleared up, pupil visible.

MEINHARDT (*Archives d'Opth.*) explains his views of the origin of pterygium, which is always preceded by a pinguecula, causing traction upon the conjunctiva, ulceration of the cornea, and pterygium develops. He found frequently behind the apex of the pterygium small granules, which on the cornea appeared gray, and the limbus yellow, and under the microscope showed to be pingueculie. Pterygium consists of a duplicature of the conjunctiva; only in the middle part of it, which attaches narrowly to

the cornea, is the conjunctiva single, the upper surface lined with epithelium. He agrees with Arlt, that traumatism of the cornea and a drawing in of the conjunctiva into the lost substance, is the origin of pterygium, with a subsequent addition of pinguecula.

NOYES (Report Fifth International Opth. Congress) performed twice an operation for *kerato-conus*—once by trephining, and once by abscission of the apex with knife and scissors, and sewing up the wound with great difficulty. In both cases anterior synechia ensued, requiring subsequent iridectomy. He insists that the sutures should remain undisturbed until solid union had taken place. Myopia is not always the main optical error in keratoconus; hypermetropia and astigmatism have been found with it, and in one case a monocular diplopia has been met with.

HAYNES WALTON (Pract. Treat. Dis. Eyes) discards the use of atropine in *phylctænular keratitis*. He does not believe in its power of diminishing tension, or irritation, nor of causing anæsthesia of the ciliary nerves. He found the alkaloid rather injurious in keratitis phlyctænulosa. Many persons are very susceptible to its toxic effect; it may cause irritation of the conjunctiva, erysipelas of the lids and cheeks. The dilated pupil makes the eye very sensitive to light. [Would not *Duboisia* answer better?]

PANAS (*Union Medicale*) describes as *keratitis punctata* a disease known as descemetitis (*iritis serosa*). It occurs frequently in conjunction with gonorrhœa or gonorrhœal rheumatism. An abundant gonorrhœa, which is seated in the deeper layers of the urethra, and which is complicated with cystitis, prostatitis and orchitis, chiefly gives rise to this affection. It will never be called forth by a mild case of gonorrhœa. It is rarely found with woman, except with real urethritis, but never with vaginal or uterine blenorrhœa. Panas explains this hypothesis, that cystitis is extended to the kidneys, which secrete less and eliminate also less uric acid. The accumulation of the latter is the cause of the affection of the joints, cornea and iris.

BULL, CH. S., (*N. Y. Med. Record*) made use of *iodoform* in *phylctænular keratitis* with good results. He applies the finely powdered iodoform with a camel's hair pencil. It causes neither

reaction nor pain; it has an anæsthetic, and consequently an antiphlogistic, effect. It is possible that the local application affects the general condition. Not being soluble in water, it is not probable that resorption emanates from the conjunctival sac. In scrofulous individuals it can be given internally, ½ to 1 gr. three times a day. The solution of iodoform—iodoform, 1 to 3 parts; glycerine, 30 parts; alcohol, 10 parts—is not admissible, on account of its irritating effect.

KRUCKOW (*Arch. d'Opth.*) describes two cases of *congenital* corneal staphyloma, which were enucleated. Both were the product of an intrauterine keratitis. One eye showed a staphyloma cornea racemosum, in whose development an iriscyst was internally interwoven. The other was only remarkable for the total absence of the crystalline lens. In both cases the remaining eye was microphthalmic.

ACHTERMANN (Inaugural Dis.) on *herpes cornea*. He divides the same into two classes: in herpes cornea inflammatorius, and in herpes cornea neuralgicus. It must not be supposed that the inflammatory basis is wanting in the latter, though there are distinctive differences, both in symptoms and progress.

The *herpes neuralgicus* appears always upon an already irritated cornea, which had suffered from phlyctænula, pannus, diffuse keratitis, conjunctivitis, ulceration, traumatism, neuralgia of trigeminus. The vesicular eruption is not necessarily connected with inflammation; the elevated epithelium and the residual necrosed corneal tissue disappear quickly. Often, but not always, are violent pains present. Relapses are frequent, though not always regular; and again, they may return with the regularity of a typical neuralgia.

The *herpes inflammatorius* begins usually on a healthy cornea, with pain and great hyperæmia; the vesicular eruption makes its advent usually simultaneously with a catarrh of the respiratory tract, and with a herpes nasalis and labialis. The number of vesicules is smaller, but their size is larger than in *herpes neuralgicus*. The regeneration of the epithelium is very slow, and may give rise to purulent infiltration of the cornea, to hypopion. Relapses are rare.

There are also marked distinctions between herpes neuralgicus and keratitis phlyctænulosa. The vesicules in herpes neu-

ralgicus are clear, transparent, containing only serum; in keratitis phlyctænulosa they are small, gray, turbid elevations, the contents of which are cells. Pannus develops early in the latter, and very late in the former. Relapses follow each other in rapid succession; almost daily a new eruption. Tension is rather increased in herpes neuralgicus, increased in keratitis phlyctænulosa.

COPPEZ (*Ann. d'Ocul.*) cites seven cases of *zoster ophthalmicus*. He calls particular attention to the fact that, contrary to Hutchinson, the eye may be affected, and the Schneiderian membrane may be entirely exempt. The severity of the skin disease is not always in proportion to that of the eye. In one case the skin was marked with numerous deep cicatrices, and yet the eye had not suffered. In another a grave irido-choriditis, with keratitis, broke out, while the skin showed only a few shallow cicatrices.

The zoster attacks rather vigorous persons, than feeble ones; rather men than women. The older the individual, the more intense and violent appears the attack. The zoster can easily be mistaken for erysipelas bullosum, for eczema. In the acute stage, only *cold* fomentation should be made. [We found *hot* fomentation far more satisfactory.]

ARMIEUX (*Gazette Med.*) recommended for clearing up extensive leucomas, the following proceedings: Perforate the leucoma in many places with a scarpas needle, and then instill five drops of the following collyrium: Pot. iod., 5.0; tinct. iodi. gtt., 30; aq. distil., 30.0. This operation has to be repeated twice a week. [A doubtful and hazardous treatment.]

Translations from the Italian.

Extracts from *Giornale Internazionale della Scienza Medicale*, Oct., Nov., and Dec., 1878. [Translated for THE JOURNAL by Dr. A. H. Ohmann-Dumesnil.

DURATION OF PREGNANCY.—Dr. Stadfeldt (*Giornale Internazionale della Mediche*, Oct., 1878,) says that an examination of over sixty-five cases has lead him to conclude that the mean duration of pregnancy is 274 days and within the limits of 250 and 293. In twenty-four cases, in which he determined the time from the first suppression of the menses, the mean period was 254 days and the extreme limits 240 and 273. From this he thinks that the duration of pregnancy ought to be reckoned from the first suppression of the menstrual flow, although modern physiologists are by no means inclined to admit that the fecundated ovum is derived from the previous ovulation.

This method of calculating would tend to prove the duration of pregnancy much shorter than it has generally been held (the mean being 254 days, as above).—*Virchow's Jahresberichte.*

GELSEMIUM SEMPERVORENS.—Dr. V. Cozzolino (*Giorn. Internazionale della Scienza Med.*, Oct. and Dec., 1878), thinks that this plant merits greater attention on account of its therapeutic properties. The only preparation now used is the tincture. Prof. Wormley, of Ohio, has extracted two bodies from it, gelsemic acid and gelsemina. The experience of Isaac Ott, as given to the author, is to the effect that gelsemic acid augments at the beginning and paralyzes reflex excitability. The alkaloid, in larger doses, acts in the same manner, but its action is not constant. In all cases the effects of the acid are much more reliable than that of the alkaloid.

When administered to a healthy person, according to W. C. Hull, it produces shivering, delirium, dilatation of the pupils, ambliopia, diplopia, cerebral congestion, general prostration and muscular resolution. The congestion, the result of vaso-motor paralysis, precedes all other phenomena of paralysis. He con-

cludes that gelsemium acts on the ganglionic centers of the encephalon and the great sympathetic, so far as all innervation of vessels is concerned.

The principal and, perhaps, the only application of gelsemium has been as an excellent anti-neuralgic. Cordis, of Geneva, has highly recommended it in neuralgia, unless it be of a congestive form. He used the drug in the form of tincture in doses varying from five to twenty drops and the relief that followed was almost instantaneous. Spencer Thomson has adopted it in almost all neuralgias and has seen good effects, particularly in those connected with the dental nerves. He has further noted that it has a prompt action, that is almost marvellous, on neuralgia; whilst, on the other hand, quinine, carbonate of iron and arsenic have a powerful but slow effect.

It is almost superfluous to add that the tincture of gelsemium is contra-indicated in any inflammation of long standing, in any active congestion or wherever there is an incipient one.

In conclusion it may be *apropos* to state that Hull regards its anti-periodic effect as its principal therapeutic virtue.

ANATOMICAL ANOMALIES.—Dr. P. Lupo (*Giorn. Internazionale della Science Med.* Oct., Nov., Dec., 1878) has observed two interesting anomalies.

I. *Anomaly of Muscles*—Above the abductor brevis pollicis, he found a small muscle perfectly separated from the former, and placed somewhat transversely. This small muscle of a quadrangular form, somewhat elongated, takes its origin from the annular ligament, a little to the radial side of the first metacarpal bone. The author has found it present in six cases out of one hundred, the attachments being different in two cases.

II. *Anomaly of Nerve*—The usual bifurcation of the inferior dental nerve at or near the mental foramen was varied as follows: one and one-half centimeters before the termination of the dental canal, at the mental foramen, a small canal branched off having a direction almost perpendicular and terminating in a foramen near the alveolar margin, corresponding in position to the third molar tooth. The nerve issued from this foramen and into two branches, one penetrating anteriorly and the other posteriorly, the buccinator muscle, where they were lost. He has observed this twice; in one case it existed on one side, and in the other on both sides.

VESICO-VAGINO-RECTAL CLOACA.—Dr. G. Consalvi (*Giornale Internazionale della Scienza Medicale*, October, November, December, 1878), contributed a paper on a most interesting and rare case, followed by successful treatment, with a good result. The case was observed at the Obstetric and Gynæcological Clinic of Naples (under the care of Prof. Morisani.) The patient, Angiola Deserio, was aged 25, and married. Previous to her present infirmity she had never suffered from any sickness. About eight months previous to her admission to the clinic she had found herself, for the first time, parturient after a regular gestation. The cephalic extremity of the child presented, in what position and presentation the author ignores. The labor was suddenly arrested, and manipulation did no good, the child remaining in the excavation *six days* (!) After this the physician attending her determined to extract with the forceps. As soon as this was accomplished he saw fæcal matter escaping from the vulva. Her menstrual epochs did not return.

On external inspection everything appeared normal, the vulva being regular in shape, though prolonged backwards a little more than ordinary; the anal orifice and the sphincter normal. The perineum was small, measuring about one centimeter in width. Opening the vulva disclosed the vagina (or the space occupied by it) filled with a body of corrugated exterior, red color, and bleeding easily, which, being depressed, could be reduced with ease, and seemed to be the mucous surface of the anterior wall of the bladder. At the base of the vestibule a thick cicatrix of circular *formeatus urianicus* could be felt, the urethra and posterior wall of the bladder missing. The vagina was totally wanting, the fourchette being the only remains of a recto-vaginal partition left. An oval opening in the rectum permitted the contents of the bowel to be discharged in the common opening. The whole was a large opening, terminating superiorily in a *cul-de-sac*, and here a hard body, conjectured by the author to be the uterus, could be felt, though no orifice was found. Examination with a speculum was not attended by any better results than by the digital method. The patient found it impossible to stand, and sat on the ground, her back to a wall, her thighs flexed upon her abdomen, looking with her stupid face more like a brute than a human being. Her manner of locomotion consisted in a peculiar dragging movement.

The author proposed operative measures to cause complete

occlusion of the vulva. To this Prof. Morisani demurred, doubting whether, in such a case, the fæces and urine would void themselves in the rectum rather than escape in the cloaca.

[Here follows a history and description of the method employed (episiorraphy)]. It was finally determined to give the operation a trial. The patient, after a proper preliminary treatment, was deemed proper to operate upon. The labia majora were "freshened" from one commissure to the other and brought in complete apposition by 7 deep and 3 superficial sutures, completely closing the vulva. A tube was inserted in the rectum to give free egress to the fæces and urine.

First day—The labia became enormously œdematous some hours after the operation.

Third day—The superficial sutures removed.

Sixth day—The deep sutures ulcerated through, the vulva being perfectly closed throughout its entire extent.

Seventh day—A high fever, an intense inflammation having arisen at the site of the operation; the anal tube removed.

Eighth day—Two fissures appeared, through which fæces and urine passed. The vulva still closed but only superficially. Washed the fissures with phenic (carbolic) acid solution, internally and externally.

Ninth day—Same wash and application of nitrate of silver.

Fourteenth day—Adhesion almost complete; on the left side perfect. On the right, a small opening still left. Persistent continuation of the treatment resulted on.

Nineteenth day—In a complete closure.

The results of the operation, according to the author, are "marvellous and beyond all expectation." The patient can hold the fæces and urine in the rectum and discharge them voluntarily, and can assume any position without inconvenience. The cicatrix is not perceptible and only to where the labia are separated. He regards the case as of great interest both on account of the success of the operation and on account of the variety and complexity of the lesion.

A CASE OF INTESTINAL OCCLUSION.—Dr. D. Antonio Parellada gives (*Cronica Medico-quirurgica de la Habana*, May 1879) an account of an interesting case in the care of Dr. Cartaya of Matanzas. The history is as follows: A girl, Flora, æt 19, without having had any previous symptoms, suddenly took sick in Sept.

1878. She had pains in the belly, great constriction and pertinaceous vomiting of greenish matter; the next day she went to the hospitial. Enemas and purgatives were administered with no result; two day's later similar medicaments and applications to the abdomen with no better result. In fact, far from becoming better, the symptoms became more alarming, the vomiting becoming stercoraceous, the constriction continuing and the pulse being hard. A third trial of enemas, with warm baths, was made; no result. On the tenth day, the patient was so low that one of the house physicians proposed to arrive at a correct diagnosis by means of gastrotomy or enterotomy, to which the patient's parents violently opposed themselves. In this strait Dr. Cartaya was summoned. The patient was put in a supine position (the only one in which she could remain); the abdomen showing an increase of volume and twists of gut being plainly marked on the skin. The face was profoundly altered and pulse feeble; the anus excoriated and very tender. Internal occlusion produced by invagination of the intestine was the diagnosis arrived at.

Taking a slender trocar the physician pierced the gut in four different places and let out a large quantity of gas of a sulphurous odor. Instant relief of patient followed. The abdomen having diminished considerably in volume the obstructed part could be felt and was relieved by a process of kneading or taxis, the disengagement being followed by slight pain and noisy borborygmus. The patientw as then put in a bath and on arriving out evacuated her bowels copiously; she had several passages from the bowels during the night. She was very weak but a tonic treatment soon restored her to her normal health.

Dr. Parellada remarks that intestinal obstructions and occlusions are determined by such different causes that, in regard to symptoms, they seem to be as varied as the causes themselves. On this account it is very difficult to arrive at a correct diagnosis. Besides other diseases, such as intestinal paralysis, saturnismus, inflammation of peritoneal covering of the bowels and others, simulate the same symptoms in part.

The causes which may partially or completely occlude the intestines are agglutination by pressure from without, such as are caused by tumors, ovarian or of the pelvis, or by vicious inclinations of the uterus; modification of the texture of the intestinal walls; ulcers, dysenteric, catarrhal, follicular or tubercular,

cancerous degenerations, etc. This slight notice is sufficient to show the difficulties attending such cases.

Invagination, intussusception or intromission is an accident pretty frequently met with in early years and not very rare in adult life. When the invaginated gut is the colon, diagnosis is comparatively easy and may sometimes be recognized *per rectum*. The persistent constipation, tense abdomen, feeling of fullness, tympanitis, colicky pains, vomiting (first of food and later of excrements) and common symptoms of all obstructions which, when the cause persists for several days, or when the occlusion is complete, induce the most horrible sufferings, most obstinate vomiting of fæcal matter; then follows rigors, quickening of the pulse and death. The treatment so opportunely used in the above case is that recommended by V. Cornill of the Hospital de la Salpetriere, Paris.

A NEW AMPHITHEATRE—A distingushed physician proposed to the municipal council of Havana to have a building constructed, which, besides containing a room for exposing and identifying bodies, should have a commodious amphitheatre provided with all the conveniences necessary to the pursuit of necroscopic investigations. A medical student to keep a record of all work in a register made for the purpose.

This suggestion was acted upon and post-mortem examinations are conducted by professors, not connected with any college; also lectures on medico-legal questions.

The advantages of this are obvious and Havana has no small reason to congratulate herself upon the innovation. It is proper to state that it was chiefly through the efforts of Dr. D. Antonis Diaz Albreini, a member of the town council, that the suggestion was carried through to a practical end.—*Cronica Medico-Quirurgica de la Habana*, May 1879.

Proceedings of Medical Societies.

SOUTHERN ILLINOIS MEDICAL ASSOCIATION.

This is one of the progressive societies of the Mississippi Valley, and if we may judge from the recent meeting of June 18 and 19, at Sparta, it is most successful. A large number of earnest, active members were present when the Association was called to order by the President, Dr. C. W. Dunning, of Cairo, whose untiring efforts in behalf of the Association are fast being rewarded. Prayer was offered by Rev. J. W. Bailey, D. D., whose presence and kindly words during the subsequent session it is pleasant to recall.

The Mayor, T. C. Perkins, Esq., welcomed the visitors in a speech, which, neither too long nor too short, was full of wit and information about the staid little city, and showing commendable pride in the Sparta doctors. A fitting reply was made by the venerable champion of true medicine, Dr. L. Pyer, of DuQuoin.

Dr. Guthrie, of Sparta, on behalf of the Committee of Arrangements, formally received the members and spoke directly as to the objects of the meeting: first, renewing old friendships and forming new ones; second, mutual improvements. He struck with a firm hand the key-note of the most harmonious expression regarding the need of a higher grade of education in all classes of society, but especially in the medical profession.

The regular order of business was then taken up, and some able papers read, which will receive due notice when published.

In the evening Dr. C. H. Hughes, of St. Louis, lectured in the Presbyterian church; subject, "A Cursory View of Insanity." Those who know the Doctor need not the information that the lecture was not only well prepared but well delivered. Such an address as might be expected from an acknowledged expert.

During the morning of the second day the reading and discussion of papers occupied almost the entire session. The committee on Necrology, through its Chairman, Dr. Hammock, reported resolutions touching the death of two members, Drs. Theo. Meyer, of Belleville and G. W. Schuchart, of Jonesboro, each a prominent member of the Association.

A matter of business was here introduced, characteristic of the sense of the members in regard to professional honor. It seems that one of the members had recommended an improper

person as a candidate for a physician's certificate from the State Board of Health. On the strength of this recommendation a certificate was granted and the recipient promptly appeared as an advertising quack. The unfortunate member was at once cited to answer charges founded on the statement made.

During the discussion which followed the mention of the matter, Dr. H. U. Ferrel took the most advanced ground, by saying that "quacks and ignorant pretenders may gain admittance by three avenues open to anybody: they may enter as graduates from 'respectable medical colleges;' they may enter under the ten year clause, as 'ten-yearlings;' they may enter as pupils practicing under a preceptor who may live many miles distant and who may not see their 'pupil' once in twelve months." The speaker cited an instance where a man who had not been in the State one year, made affidavit that he had practiced in the State the orthodox ten years, was recommended by politicians and licensed to practice. "Is this as it should be? Is it for the interest either of the profession or the public that it should be so? That it is to the interest of the public that medical men should be both honorable and competent, we take it as a self-evident proposition. Can the portals of the medical profession be so guarded as to prevent the ingress of such persons? We think they can. How? Let our State legislature take from all medical colleges in the State the power of conferring the degree of M. D., and place that power solely in the hands of a board of examiners appointed by the Governor and with the advice and consent of the senate; let them be appointed for their known high standing as medical men, no one to have any connection, directly or indirectly, with any medical college; pay them a respectable salary. Let them hold office during life or good behavior; let all vacancies be filled by the board; let that board act under oath, and be held criminally responsible for any violation of that oath.

Admit no one to the practice of medicine in the State of Illinois who does not hold a diploma from that board conferred after a thorough examination. What would be the effect of such a law? We would have fewer medical colleges, but we would have better ones; we would have fewer doctors, but we would have better ones. What would be its effects upon those already in the profession—graduates of respectable medical colleges. It is a well-known fact, that in the eyes of the public a diploma is simply a diploma, and Dr. A's diploma, obtained after a long course of study, capped by a thorough and searching examination, is worth no more as an evidence of proficiency than Dr. B's, obtained in three weeks. Now, many graduates in medicine, recognizing this fact, together with the further fact that a diploma is no evidence of proficiency, would ignore their diploma and go before this board for its examination and degree." The earnestness with which this was spoken and the assent which greeted it, showed plainly that doctors of Southern Illi-

nois are alive to the best interests of the profession, and give no "uncertain sound" when called on.

In the afternoon Dr. Hodgen entertained the Association by detailing some of "my blunders." This, which on the part of most men would be hazardous, was a frank and free narration of a few of the straits met with and responsibilities unavoidable in a large surgical practice. Certainly the Society felt that while few men make so few mistakes as the doctor, not many are brave enough to draw lessons from these "blunders" to benefit others.

In the evening a large audience gathered in the U. P. Church, to listen to an address by Dr. Hodgen, under the auspices of the Association. The subject, "A Uniform Plan in Development," was plainly and intelligently dealt with, and illustrated by free-hand drawings on the black board. As it was for the public, the public understood and appreciated it. Would that the people everywhere had more such simple instructions on matters so important.

Before the Association adjourned (to meet in Cairo, in January), thanks were passed to those whose favors added so much to the pleasure of all. The city authorities had been kind, the hotel-keepers generous, and as though to excel all else, the physicians of Sparta kept "open houses" to the utmost extent.

Sparta, we may add, is a busy, temperate little city worthy of its ancient name, and pleasantly located on the Cairo and St. Louis (narrow gauge) R. R. Much of its prosperity is due to this road which, through enterprise and careful management, has become one of the institutions of this part of the State. VIATOR.

CENTRAL KANSAS MEDICAL SOCIETY.

Pursuant to a call, the physicians of Ellsworth, McPherson, Reno and Rice counties met at Sterling, Kansas, in Odd Fellows Hall, for the purpose of organizing a medical society. Dr. Robinson, of Hutchinson, was called to the Chair, and Dr. Burton, of Raymond, was chosen Secretary. Drs. Smolt, Murphy, and Adams, were appointed a Committee on Credentials, and reported favorably on the following gentleman:

Dr. N. T. P. Robinson, Hutchinson; Dr. E. G. Minnick, Ellsworth; Dr. G. F. Wright, Ellsworth; Dr. J. S. Chase, Lyons; Dr. W. C. Burden, Raymond; Dr. H. S. Havinghorst, Allegan; Dr. H. C. Frarrer, Ellsworth; Dr. M. H. Haskins, Empire; Dr. F. Sieber, Ellsworth; Dr. L. W. Whistler, Wilson; Dr. W. A. Shelton, McPherson; Dr. W. M. Lamb, Sterling; Dr. J. O. Day, McPherson; Dr. P. P. Trueheart, Sterling; Dr. E. W.

Adams, McPherson; Dr. N. F. Terry, Lyons; Dr. W. W. Murphy, McPherson; Dr. C. F. Smolt, Nickerson; Dr. W. W. Spiers, Raymond; Dr. J. W. Goodson, Sterling; Dr. L. O. Lockwood, Ellsworth.

Next in order was the election of officers, which resulted as follows:

President—Dr. N. T. P. Robinson, of Hutchinson.

Vice-President—Dr. P. P. Trueheart, of Sterling.

Secretary—Dr. N. F. Terry, of Lyons.

Treasurer—Dr. F. Sieber, of Ellsworth.

Board of Censors—Dr. W. W. Murphy, of McPherson; Dr. C. F. Smolt, of Nickerson; Dr. C. W. Adams, of McPherson.

Drs. Haskins, Chase and Lamb were appointed a committee on Constitution and By-laws.

The Committee on Programme made the following report:

General Essayist, Dr. F. Sieber.

Uterine Hemorrhage, Dr. C. W. Adams.

Antiseptic Surgery, Dr. N. T. P. Robinson.

Puerperal Eclampsia, Dr. W. W. Murphy.

Advancement in Surgery, Dr. P. P. Trueheart.

Parasites, Dr. W. A. Shelton.

Injuries to Cranium and its Contents, Dr. N. F. Terry.

Hemorrhoids, Dr. E. C. Minnick.

New Remedies, Dr. J. O. Day.

Eye and Ear, Dr. W. M. Lamb.

Medical Literature, Dr. G. F. Wright.

The organization was called the Central Kansas Medical Society.

Dr. Murphy moved that a vote of thanks be returned to the Odd Fellows of Sterling for the use of their hall. Carried.

On motion, the Society adjourned to meet in Ellsworth, on the first Wednesday in July, at 2:30. P. M.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

This Association held their first annual meeting in New York at Delmonico's Parlor No. 10, June 10, 11 and 12, 1879.

MORNING SESSION.

After roll call, and the reception of guests with an address of welcome, Dr. J. Solis Cohen, of Philadelphia, exhibited two models which illustrated the analysis of the lines of muscular force controlling the glottis, and also exhibited patients in which there was laryngeal paralysis of different forms. These models

illustrated the subject much better than could be done by mere description.

Dr. F. J. Knight of Boston, read a paper on retro-pharyngeal sarcoma. This was discussed at length by Dr. Geo. M. Lefferts of New York, and others.

Dr. L. Elsberg of New York, then exhibited a perfected sponge carrier. This was discussed by Dr. J. Solis Cohen of Philadelphia.

Dr. Clinton Wagner of New York, being sick, his paper on nasal stenosis was deferred to the next meeting, and in place of it, Dr. Thomas F. Rumbold, of St. Louis, read a paper on the treatment of nasal catarrh, and exhibited his instruments for the application of remedies locally. The paper was discussed by Drs. Beverly Robinson of New York, Carl Seiler of Philadelphia, and Shurley of Detroit, Mich.

AFTERNOON SESSION.

Dr. G. M. Lefferts, of New York, read a very interesting paper on corea laryngealis. This was discussed by a number of members.

Dr. R. P. Lincoln, of New York, read a paper on naso-pharyngeal polypus, and exhibited two patients from whom he had removed polypi. The discussion occupied the remainder of the afternoon session.

ANNUAL ADDRESS.

There being no session in the forenoon of June 11, at 2 P. M. the President, Dr. Elsberg, read his annual address. This gave a long history of laryngology. It will appear in a future number of this journal. A vote of thanks was given to the President for the paper.

Dr. E. Cutler, of Cambridge, Mass., read a paper on the larynx and the uterus, showing that there were a great many cases of disease of the throat, which depended to a great extent on diseases of the uterus. The paper was commented upon favorably by Dr. Thomas F. Rumbold, of St. Louis.

Dr. T. H. Bosworth, of New York, read a report of a case of primary tubercular ulcer of the larynx, followed by laryngeal and pulmonary tuberculosis; also a paper on a case of syphilitic stenosis of the larynx, in which he presented an artificial vocal apparatus. The discussion of this paper occupied the attention of the fellows up to the time of adjournment.

Dr. J. H. Hartman, of Baltimore, read an interesting paper on laryngeal hemorrhage. This was discussed by Dr. Rumbold, of St. Louis, who also related the history of two cases that came under his observation. The subject was also discussed by Drs. Cohen and Elsberg.

Dr. E. L. Shurley, of Detroit, read an interesting paper on the galvano-cautery in the treatment of diseases of the nose and

pharynx, and exhibited instruments of his own invention which he used for this purpose. His nose speculum or guard is quite ingenious. At a subsequent meeting, Dr. Duncan, of New York, exhibited his galvano-cautery knife for operations on the same kind of tumors.

ELECTION OF OFFICERS.

On June 12th, at 2 P. M., an election of officers for 1879 and 1880 was held, and resulted in the election of the following:

President—Dr. Louis Elsberg, of New York.

Vice-President—Dr. Frank H. Davis, of Chicago.

Secretary and Treasurer—Dr. G. M. Lefferts, of New York.

Member of the Council—R. P. Lincoln, of New York. (The other members of the council hold over).

Librarian—Dr. Frank H. Bosworth, of New York.

At this meeting, new fellows were added to the Association. Dr. R. H. Kealhofer, of St. Louis, was among this number.

Dr. Carl Seiler, of Philadelphia, read a paper on the researches of the anatomy of the vocal cords. This valuable paper was a lengthy one, and contained newly acquired information.

On the evening of June 11th, the fellow residents of New York gave the Association a banquet at Delmonico's Parlor No. 10.

Clinical Reports from Private Practice.

CONSERVATIVE SURGERY *per se*. By JOSEPH L. BAUER, M. D., of St. Libory, Ill.

Remarkable accomplishments in surgery during the present century are not novel. The spirit of progress has kept pace with the other sciences, and it is a wonder that ignoramuses can exist where *literature* is so easily secured and competent experience so readily utilized. Notwithstanding this acknowledgement, State and municipal Legislatures have enacted laws to "better protect the lives of individuals" and to assist the better part of the profession in their war against ignorant and incompetent practitioners. The State of Illinois has a settled code of laws to accomplish this purpose, with the additional requirement of the "death certificate." What results have been achieved by them can be gleaned by the following interesting case:

CASE I.—P. Y., a German, aged about 35 years, was hauling logs. Falling from his wagon, the wheels passed over his left

leg, fracturing the fibula at its lower third, about two inches above the ankle-joint. The weather was cold, and the patient managed to crawl into a fence-corner to await assistance. He was removed to his home, and an "accomplished surgeon" sent for. When he arrived he made an examination, and stated that it was a small matter, and likely to recover in a short time. What he did to accomplish this result may be learned by the following quotations from the letter of the surgeon last in charge: "I arrived at his residence about half-past 4 A. M., and was told that the patient had been dead an hour and a-half. I examined the body. The stench in the room was fearful; found left leg in a fracture-box covered with a sack of dry bran and supported with old rags. The foot was enormously swollen, and I noticed several large blebs or blisters on the foot, filled with bloody serum. *Around the ankle was a bandage, commencing about five or six inches up the leg.* I removed this, and found a compound fracture of the fibula at its lower third, the bone having penetrated the skin. I could discover no fracture of the tibia. The foot and leg were greatly *swollen* and *discolored*, with the exception of the part covered by the bandage, which was the natural size. Almost the entire leg was black. On the calf of the leg above the bandage the attending surgeon had made a deep incision a few minutes before death; but stated to the friends it was too late. He (the said surgeon) had also explained the structure of the leg to the friends in this manner: 'In the leg below the knee are three bones, one big bone in the middle and two little bones on each side. It is the little bone on the outside of the leg that is broken.' The attending surgeon would not allow another to be called till about two hours before death, when any one could have seen that the patient was *in articulo mortis*, saying it was unnecessary. * * * * * * * * You will observe that the roller was applied to the ankle, leaving the foot bare, and that it would be difficult to apply a bandage in that manner loosely enough not to produce mischief."

I have attended the widow of the deceased and I can corroborate the statement of the physician called post mortem. Further comment as to the cause of death is of course unnecessary. The "surgeon" in question has repeatedly said that it did not pay to call counsel for various reasons, and he had abandoned that method of consultation. The certificate of death has appeared, and we are left to question his ante mortem diagnosis and the three bones. This surgeon registers as a "Licentiate of the Canton of Cargan, Switzerland." Licentiate of what can be judged by the case.

ANOTHER CASE OF ERYTHEMA. By ISAAC MOORE, M. D., of Portage de Sioux, Mo.

EDITOR JOURNAL:—I notice with no little interest your report of the proceedings of the St. Louis Medical Society, in your JOURNAL of May last, of a case of erythema, brought before the Society by Dr. G Hurt. Now, with the desire of getting as well as giving more information upon the subject, I will report another case: Joseph Martineau, a young man eighteen years of age, French descent, a farmer by occupation—never did anything else—called to see me about his peculiar disease. On examination, I found his arms and hands, legs and feet were considerably swollen, and with a dark purple color; appetite good; sleep rather good; bowels about regular; said he had been using the hoe exclusively in the field this season; had one chill about a week previous to this discoloration of his limbs. The swelling continued until it became dropsical. He also complained of stiffness of his limbs. His pulse was somewhat accelerated. I am satisfied that it is one and the same disease as that of Dr. Hurt's case, but this could not have produced, as Dr. Prewitt thinks, of handling of different articles. Nor could it have been brought on in this case by any external irritant to the skin, as Drs. Johnston and Stephens thought, unless by the atmosphere, or pure water, or both. As Dr. Coles thinks, I think that there was a condition of nervous paralysis; that there is some neurosis, and I am under the impression that it is caused by malarial poison. And again, I think the seat of the disease will be found at the spinal cord.

As I had never seen a case of the kind before, I was at a loss to know what to do with my patient, but finally concluded to give him the following:

℞. Quinine.....grs. lx.
Tr. Aconite.....℥iij.
Tr. Sanguinaria } aa.....℥ij.
Spr. nil. ether... }
Syr. symplex.....℥i. M.
Sig.—Take a spoonful every four hours.

In six days I discharged him well. I will be glad to hear more on this subject.

Periscope of Current Medical and Scientific Literature.

VENEREAL DISEASES.

CLINICAL LECTURE ON SYPHILIS IN RELATION TO MARRIAGE. (Dr. Alfred Fournier.)—The question whether a man who has contracted syphilis may marry is one which is not infrequently asked of a physician, and one which he may not avoid, notwithstanding that it casts upon him the gravest responsibility. If his anwer be a positive "No" it is apt to involve for the inquirer celibacy, with irregularities the temptation to which he can not resist, the deprivation of all that is dear in the idea of family, and many evils which may result from these. If the answer be "Yes," there may ensue equally disastrous consequences. The marriage relation may be the means of communicating to his wife the disease under which he labors; and his children may die before their birth, or come into the world unfit to exist. What can be more terrible than the position of such a man *vis a-vis* his wife and children? Remember this, gentleman, when asked this momentous question.

But, from what I have said, are you to conclude that syphilis is an unsurmountable obstacle to marriage? No, it must not be so considered. This I may say with positiveness, since there have been cases enough to demonstrate its truth; cases where the disease has been communicated to neither wife nor children. I have myself seen fifty-one such, and eighty-two children born and living healthy in spite of the previous disease of their father. When I reflect upon these happy families, I can not but think what an error I should have committed had I always said an inflexible "No!" to the question whether marriage is permissible after contracting syphilis.

My answer to this question is not "No," but "Yes"—under certain conditions. It must be well weighed that syphilis is dangerous in three ways; 1st, to the wife; 2d, to the child; 3d, to the family relation.

First, then, syphilis is dangerous to the wife, for she may contract the disease from manifestations recurring after it seems to have subsided, or from secondary lesions upon any part of the body by means of the multiplicity of contacts and *rapports*, so incessant and intimate, of married life. It is very rarely that under such circumstances a woman escapes contagion from a man with secondary syphilis.

But besides this there is a means of contagion less apparent, less likely to be suspected. A young woman may present manifestations of secondary syphilis and no sign of a primary lesion. The husband, in distress, declares that he himself has had no lesion since he married; that, with your warning against this danger in his mind, he examined himself carefully and constantly, and that he trusted your assurance that all was right. How can this be accounted for? Infallibly in such a case you find that the wife is at that time pregnant, or that she has recently aborted. The syphilis was communicated by conception. Of the way in which this takes place we know absolutely nothing. Of the fact my experience does not permit me to doubt.

In the second place, besides the danger to the wife, and even should she escape, syphilis involves the child in danger. The error of teaching that paternal influence is not to be dreaded is enormous. When it is seen how the father's influence makes itself known in the offspring, in form, shape, height, and tendency to special diseases of body and mind, how can we deny the force of analogy in regard to syphilis?

There are cases, it is true, where the father has not communicated this disease to his child, and enough of them; as, for example, where a syphilitic man had, at about the same time, a child by his wife, who was syphilitic, and so was the child, and one by his mistress, who was not syphilitic, and her child was sound. A second instance I can quote of a syphilitic man whose child was born healthy and contracted the disease two years later from its father's kisses.

But this concession is only one side of the question. On the other hand, it is a rare occurrence, but true, that a father has begotten a syphilitic child and the mother remained unaffected. Besides which, we must take into consideration the important matter of abortion, which occurs so often with no other cause discoverable upon the most searching examination. When such cases come under your notice, where abortion has followed abortion in women apparently healthy, you may suspect, and will usually find, that it is due to the syphilitic influence of the father upon the fœtus.

Thus much of children whose father alone is syphilitic. When both parents are diseased we find that the children die *in utero*, or born with syphilis, or with a miesrable, weak, caehectic constitution, ready to fall a prey to disease of almost every sort. I can recite you the case of a women who having given birth to three healthy children, contracted syphilis from her husband and then had four still births and three abortions in succession.

The children of the second class, born with syphilis, for the most part do not live long. The disease soon terminates their existence. Those of the third class may show their debility at once, or give no sign, looking well the day of their birth and dying the next, without apparent cause; or they may grow

awhile, delicate and feeble, with little power to resist disease, and predisposed to scrofula, idiocy and convulsions.

In the third place, syphilis is dangerous to the family relation. I am not a preacher, gentlemen, but I speak to you *en honnete homme*. We may not, in the discharge of our professional duties, overlook the importance, to the state and to mankind, of the social relations. And so I feel that a man with uncured syphilis has contracted a physical debt which he must inevitably pay; and I ask you, Can he marry honestly? Suppose he gets children, and then falls sick and then can not work to support his family. Dare a man risk this? No! If he marries, uncured, it is an immoral act, an act of injustice to the community. Alas! such things are not uncommon. I know a case of a man who, after marrying and getting children, lost his nose by ulceration, and became an object of disgust to all who knew him, unfitted for his former associations, and branded with the consequences of an almost forgotten disease. Another man had a late affection of his eyes, and lost them both, by which his means of support were gone, and his family became dependent upon the city. Another, a doctor, impotent from paraplegia, came into the same condition. Another, after a few months of married life, died, leaving his young wife *enciente*. Another, had carnial exostoses, a cerebral affection, and epilepsy; lost his reason and his money, leaving his wife and children in poverty.

In view of all this, our bounden duty is to declare to a questioner what may be the consequences of a marriage after the contraction of syphilis. Where there is serious danger of such results as I have named, no man can, no man has the moral right to take a wife and beget children.

But this rule must be most carefully applied; for, as I have said already, we may not invariably refuse our consent to marriage after syphilis has been contracted.

Now, however, we approach grave difficulties, and are confronted with the usual embarrassment of proceeding from theory to practice.

When and under what conditions, then, is marriage morally permissible to one who has contracted syphilis?

The conditions that are indispensable I believe to be the following:

1st. *Absence of actual manifestations.*
2d. *Advanced age of the disease.*
3d. *A period of immunity since the last outbreak.*
4th. *A non-menacing character of the disease.*
5th. *Adequate specific treatment.*

It might be thought somewhat superfluous to say that *no one should marry who has actual manifestations* of this disease—that these constitute an absolutely insurmountable barrier; and yet I have seen men bold enough to ask the question, and have seen two cases of marriage with a chancre at the time. Some men act

thus from ignorance; some cynically brave all the danger; some, from weakness, fear of exposure and scandal, allow the consummation of a union into which they should by no means enter; but for none is there a reason which can justify them.

The second condition, *advanced age of the disease*, depends upon the fact that the fresher, the younger the attack of syphilis, the greater is the liability to accident from it. Thus the presence of secondary manifestations constitutes a very formidable danger; and even when they have disappeared they are apt to return. There are certain situations, also, as about the mouth and genitals, where they may be present as simple erosions and deceive a most careful observer. This fact of the decreasing danger as time goes on is shown in cases where at first a healthy mother has aborted, and later, without her husband's being treated, she has ceased to abort and given birth to healthy children. I knew a mason who, when he married, had a syphilitic roseola. His wife was infected, with the following issue of her pregnancies: in the first she aborted at four months, in the second at five, the third child died before term, the fourth and fifth were born syphilitic, and the sixth, seventh and eighth showed no sign of the disease.

The precise time when a previously syphilitic person may marry is hard to determine, and must be considered with due estimation of the sort of treatment that has been employed and its effect; but I may say that I think the minimum time since infection should be three or four years. Before the lapse of three years I will not permit it, as I have seen the saddest results follow such a course. Later the probabilities are better, and, with the exercise of proper care, the dangers are not great.

The third condition I mentioned was *a certain period of immunity since the last outbreak*. By this I mean an *absolute* immunity for a certain length of time. This marks the subsidence of the acute stage, called secondary, and shows the effect of treatment as well as the character of the disease in each case. If these are such as to encourage you, I think, while no invariable period can be set down, that we may consider eighteen months as a minimum, under which I would not myself sanction marriage.

The fourth condition is a *non-menacing character of the disease*. This is a most important consideration. When syphilis yields rapidly to treatment it is a favorable sign; and, conversely, if the form is grave and less tractable, it is more dangerous, and much greater caution must be used. To enumerate some of the characteristics which are grave, I might mention multiformity, multiplicity, or intensity of lesions, a seemingly deep impression upon the general health and stubbornness against treatment. Besides this, there are certain organs, the implication of which is very serious, as the brain and spinal cord, lesions of these being extremely dangerous and apt to recur. I should require a very

long period of immunity in such a case. I remember a young man whose arm had been partially paralyzed, who married in spite of my warning, and in ten days had an attack of paraplegia, followed by insanity and speedy death in an asylum.

Finally, an indispensable condition is *adequate specific treatment.* The individual who has contracted syphilis is dangerous, and must be treated. This is the best protection to the community, and needs no argument to support it. Syphilis properly treated rarely progresses to the tertiary stage, while that which is not properly treated almost always does. Treatment diminishes its contagiousness and hereditary transmissibility. Many cases could be cited to illustrate this, where proper treatment of a husband has put a stop to his wife's aborting, and where abortions consequent upon syphilis of both husband and wife have ceased and healthy children been born. It is especially important that at the time of procreation both husband and wife should be under treatment. I know a case where a syphilitic woman, who had aborted seven times, went under treatment, and gave birth in the eighth pregnancy to a healthy child, and then another in the ninth. She now omitted treatment, and her tenth pregnancy resulted in a syphilitic child that died in six months. Returning to treatment, she became pregnant again and had a healthy child.

Adequate treatment, therefore, is a capital and essential condition to marriage of a syphilitic.

I have thus, gentleman, laid down what I think are the conditions upon which one who has contracted syphilis may marry. It is not an invariable programme, but simply the result of my personal observation, and what may, indeed, be modified in the light of subsequent information. With these considerations in my mind, when the question we have been studying is presented to me, I feel sometimes quite sure of my ground, and speak out positively and at once. At other times I do what you will doubtless have to do, wait and observe; in doing which, I likewise explain the case to my patient, and impress him with the importance of being as careful as possible in a matter so grave, and which is at best a calculation of probabilities. On one side there is danger which can not be overestimated, on the other comparative health, safety and happiness.

If, then, we deal thus honestly and conscientiously with those who seek our advice in this serious matter, with due caution against the ills which may result from an unwise permission, and appreciation of the unhappiness which may follow an unnecessary refusal, we shall execute an office salutary to the state and of the greatest benefit to our fellow-men.—*Cin. Med. News.*

THOS. K.

PHYSIOLOGY.

FUNCTIONS OF THE ORGANS OF THE FŒTUS IN UTERO.—Dr. W. J. Smyley reviews what is known upon this subject. Anatomists have studied and explained the development of the various organs of the fœtus; but physiologists have been slow in elucidating the functions of these organs. Indeed, the subject was of but little interest so long as the ovum was regarded as a new growth within the mother, bearing to her much the same relation as an organ of her body. As soon, however, as it was shown that the fœtus possessed an independent circulatory and respiratory apparatus, it became evident that it possessed a physiological existence, "resembling rather that of a parasite living within, and drawing nourishment from the body of its host, but possessing at the same time an independent power of assimilation, secretion, and heat formation." To show the physiological relation between the fœtus and the mother, would be to explain the nature of some contagious and hereditary diseases. Professor Gusserow, of Strasburg, has recently made some valuable experiments upon this subject. It was proven some years ago that medicinal and other foreign substances do pass from the mother to the fœtus. The experiments were first made upon the lower animals and then upon pregnant women. It was proven that if therapeutic doses of iodide of potassium were given to a pregnant woman for fourteen days preceding her confinement, and the liquor amnii was collected, and the child's urine drawn through a catheter as soon after birth as possible, the iodide could be detected in both the urine and the liquor amnii. The variable quantities of the iodide found in the liquor amnii in different experiments seemed to cast some light upon the micturition of the fœtus. There can now be no doubt that the fœtus does not secrete urine, and that the urine is passed into the liquor amnii. In the great majority of examinations of this fluid, urea has been discovered as a constituent. However, it is evident that the urinary matter passed into the liquor amnii does not remain there; for if it did, this fluid, towards the end of pregnancy, would have the same composition as the urine. The urea is probably decomposod and absorbed into the blood of the mother. This theory is supported by the fact that though the reaction of the liquor amnii is generally slightly alkaline, it is sometimes very strongly alkaline from ammonia; the alkali undoubtedly arising from the decomposition of the urea. When much urea is found in the liquor amnii, the fœtus has micturated lately, but when little or no urea is found, it has been decomposed into ammonia and absorbed into the blood of the mother. From this, it would appear that the urine does not flow from the fœtus continually, but collects in the bladder until a

sufficient irritation is conveyed to the spinal cord to cause reflex contraction of the walls of the bladder. The source of the liquor amnii has long been a question under dispute. This fluid was supposed by some to be a fœtal production, and by others, to be derived solely from the mother. Scheerer thought that it was a secretion from the integument during the early months of pregnancy, but this is negatived by the rapid increase during the latter months of gestation. Gusserow says: "If the liquor amnii were merely a transudation from the fœtal or maternal vessels, it should bear the characters of such a transudation; it should, therefore, contain, fibrinogenous materials. I have never, however, succeeded in producing coagulation, by the addition of blood to the amniotic fluid, either of the human female or that of the lower animals; nor have I ever observed spontaneous coagulation, provided the fluid were taken quite pure. That it is almost free from white corpuscles, is almost in accordance with this. Its poverty in albumen and white corpuscles, together with its incoagulability, would, of themselves, lay to one side the idea that it is the result of a mechanical œdema, even if it were not distinctly contradicted by the total absence of red cells." We may conclude that though the source of the liquor amnii at an early period is obscure, during the second half, at least, of pregnancy, it is derived from the kidneys of the fœtus. Bunge and Schmiedeberg have proven that the well-known conversion of benzoic into hippuric acid in the body takes place in the kidneys only. Gusserow made use of this point in some farther experiments. Evidently if hippuric acid could be found in considerable amount in the urine of the fœtus or in the liquor amnii after the demonstration of benzoic acid to the mother, the change must have taken place in the kidneys of the fœtus. Consequently, benzoic acid, in the form of benzoate of soda, was administered to several pregnant women. The liquor amnii was drawn off by means of a trocar and canula so as to avoid admixture with the mother's urine, and the child's urine was drawn off with a catheter as soon after birth as possible—"at all events before it had taken the mother's breast." The following case will illustrate the method: "A patient consumed one gramme of the benzoate of soda in the course of three hours; one hour and three-quaters after the last dose, the waters were removed. They contained no acid; but a considerable quantity of hippuric acid was found in the urine of the child." In other cases, hippuric acid was found only in the liquor amnii, and in still others in both the urine and the liquor amnii. No benzoic acid was in any case found in the latter, consequently, we must conclude that the benzoic acid is transferred from the blood of the mother to that of the fœtus and then is changed in the kidneys of the latter into hippuric acid. The passage of material from the embryo to the mother was also investigated experimentally. The abdomen of

a pregnant cat was opened, and the uterus was seized with a small pair of forceps and a small hole torn through it. The membranes were not ruptured, and a solution of strychnia was injected into the fœtus. The escape of the injected strychnia was prevented by the use of a pair of bull-dog forceps. In those cases in which the fœtus remained alive for any length of time, the mother invariably had spasms, usually in about twenty minutes after the injection of the fœtus.—*Dub. Jour. of Med. Science. The Physician and Surgeon.*

EPIGLOTTIS—ITS FUNCTION IN DEGLUTITION AND PHONATION.—Dr. Walton (*Journal of Physiology*, Vol. 1), gives a capital paper on the functions of the epiglottis. Experiments on animals and man, with extensive literary researches, form the basis for the following conclusions: As regards deglutition, (1.) The epiglottis can be removed from dogs and cats without interfering with deglutition. (2.) The cases commonly quoted to prove the connection between the epiglottis and the deglutition of fluids prove nothing; not a single case having been found, after a careful search through the reports of laryngoscopic observations, in which the lesion is shown to be limited to the epiglottis where liquids are reported as causing a cough on deglutition. (3.) There are many cases in which loss of the epiglottis has not been followed by difficulty in swallowing liquids. (4.) In failure of the glottis to close, the epiglottis, if uninjured, is able to protect the larynx; but in the normal condition the presence of the epiglottis is not essential to perfect deglutition. It is, therefore, only an additional safeguard.

Regarding phonation: (1.) The epiglottis produces change in pitch, acting as a sounding plate by means of its free edges, and as a tuner in modifying the pitch as it presses back over the glottis or the opposite. (2.) The epiglottis produces *changes in quality*. (a.) If a brilliant tone be intended, the free edge only of the epiglottis is turned up. (b.) If a sombre tone be intended, the epiglottis followed by the tongue pushes back over the glottis, so as to deaden the sound by obstructing it instead of reinforcing it, as it does in the brilliant tone. (c.) If a veiled tone be intended, the epiglottis flattens towards the tongue, so that its whole posterior surface is in view. The same positions are taken by the epiglottis for each of the vowel sounds. (3.) The epiglottis produces *changes in intensity*, acting like a valve at the top of an organ pipe, if the note of the reed is intended to be swelled. In acting so, it must, of course, be drawn over the larynx, the ventricular being simultaneously drawn.—*Detroit Lancet.*

HORSE-SHOE KIDNEY.—Dr. Finny said: At the first meeting of the Society it was my privilege to submit an example of congenital displacement of the right kidney. Now I have to show another anomalous condition of the kidneys, consisting of the

union or fusion of the two lower portions of the kidneys, forming what is called horse shoe kidney. The example represents these features remarkably well. The specimen was taken from the body of a male subject in the adjoining dissecting room; and the situation of the organ was as follows: The upper ends of the kidneys are both a little lower than they ought to be, but they were covered by the supra-renal bodies. The lower portions of the kidneys converged, and met across the abdominal aorta, the lower end of the inner being half an inch above its bifurcation. The inferior mesenteric artery crossed the junction of the kidneys. The fold of the peritoneum was deflected from the left side of the mesentery and passed near the psoas magnus muscle over the kidneys. Under it, or between it and the kidneys, lay the left spermatic vessels. The arterial supply of the kidney was derived both from the normal sources and from additional sources. The upper portions of the united kidneys received the two renal arteries respectively, while the lower portion of them received two other vessels, one of which was derived from the abdominal aorta, three quarters or half an inch below the inferior mesenteric, while the others, which passed to the under-surface of the union of the two kidneys, was derived from the left common iliac artery. As is common in such cases, the ureters pass in front of the kidneys. The other remarkable points are—that the hilum of each kidney seems extremely large, especially in the right half of the union, and that the pelvis of the left kidney is fully three and a half inches long. The venous distribution seems to be quite normal, the left vein, though at a lower level than usual, crossing the abdominal aorta and joining the vena cava. The left spermatic vein passes over the kidneys and enters the left renal vein.—*Dub. Path. Soc. in Dub. Med. Jour.*

ALIMENTATION IN HEALTH AND DISEASE.—The true basis of alimentation is not beef, but wheat; and in a natural and rational system of dietetics, wheat and the allied seed foods, including beans, lentils, peas, and rice, must take the place now usurped by the allied animal foods, including butter, cheese, eggs and milk.

Next to these should come the appetizing juicy fruits, and then the plant foods, which are neither seeds nor fruits, and which are generally styled vegetables. After these the various animal foods, and last of all the stimulating spices, beverages, and other food adjuncts, which unfortunately ranks so high in our present ill-advised and ill-proportioned dietary.

The fowl or the joint occupies the post of honor, while the loaf is thrust to one side and too often forgotten, or overwhelmed in the crowd of seasoned dishes, or supplanted by cakes and pastries, from which the glorious vitality of the wheat has been successfully extracted. In fact, the miller and the baker between them have so contrived to emasculate the king of grains that we

need not wonder that bread has been dethroned by beef, and even among the poor, by demoralized, ignoble pork and beer.

The true life-giving, mental, moral, and physical force-producing bread is neither more nor less than sound, ripe wheat when deprived of its thin outer silicious, innutritious husk, coarsely ground and mixed simply with water, and subjected to just that degree of kneading and baking that will suffice to prepare it for mastication, insalivation and the subsequent action of the gastric juice.—*Atlanta Med. and Sur. Jour.*

SECRETION OF URINE.—Quincke finds, contrary to a natural suppositon, that while there is a diminished secretion of urine during sleep, the reverse takes place immediately after waking, and that for some time afterwards more urine is secreted than during any other similar period of the twenty-four hours. Quincke is unable to furnish a reason for this peculiar phenomenon. Is it not closely related to the period of taking liquid, the amount taken, and the effect of exercise in dressing after the repose of the night?—*Hosp. Gaz.* I. N. L.

SURGERY.

EXPERIMENT ON MALIGNANT PUSTULE.—At the meeting of the Academy of Medicine, held on the 29th of October last, M. Colin described a series of experiments made with the view of ascertaining the means of neutralizing different forms of virus in the organism. Forty rabbits were put under observation and were inoculated with the virus of the "pustule maligne." The inoculation was done at the tip of the ear, which was cut off ten minutes after the operation. In every case the disease developed itself, and the virus did not seem to have lost any of its energy throughout the series of experiments. In the case of seven rabbits tincture of iodine was the substance used to neutralize, associated with a strong portion of iodide of potassium; in fourteen others carbolic acid was used; in four sulphuric acid was the agent; in five more hyposulphite of soda; in three borate of sodium; in two sulphate of iron; and, finally, in the remaining five cases sulphate of quinine was injected. Progressive doses of from twelve to twenty-three milligrammes of iodine were injected into the veins of the first seven rabbits for every kilogramme of their weight, but they all died within twenty-eight hours from the time of the inoculation. Fourteen rabbits were injected with 230 milligrammes of carbolic acid for every kilogramme of their weight, but the one that resisted the longest died forty-two hours after the time of inoculation. In the remaining trials with the other substances above named, the results

were approximately the same. M. Davaine had found that the substances above named were capable of neutralizing the virus in a watch-glass, but the experiments of M. Colin conclusively prove that their action is not the same in the organism. M. Colin expressed his regret at not having obtained more useful results, but still hoped to be able eventually to find some counter-agent for this terrible poison. In each case the characteristic alterations of the disease existed, such as swelling of the spleen and the presence of bacteria in the blood.—*Med. and Surg. Rep.*

H. H. M.

DISEASES OF THE NERVOUS SYSTEM.

CYSTICERCI IN THE BRAIN. DIAGNOSTICATED DURING LIFE.—A case of this character is recorded by Dr. Joseph Pollak in the *Wiener Med. Presse*, No. 47, 1878. The patient was a boy eight years of age. Exmination of the pulse, temperature, thoracic and abdominal viscera failed to reveal anything abnormal. The boy complained of excruciating headache, and his piercing cries were loud enough to be heard at quite a distance. Very shortly after his first visit the attendant was recalled, when he found the pupils dilated, the urine and fæces passed involuntarily, the abdomen distended; headache was still severe. Every few hours, attacks of an epileptiform nature recurred, while in the intervals there was a remarkable absence of all these symptoms. At one of his visits just after prescribing a cathartic, he had occasion to examine the stools, where he found portions of a tænia. The presence of this, in connection with the other symptoms, at once aroused the suspicion that he had here a case of entozoal origin. At his next visit he found the patient comatose, and on examination of his puplis found, to his surprise, what proved on a closer examination, to be a cysticercus in the anterior chamber. He at once pronounced the case one of cysticercus of the brain. The patient died shortly afterward, and the diagnosis was fully verified.—*Atlanta Med. and Surg Jour.*

VULPIAN ON THE NERVES INFLUENCING THE SECRETION OF SWEAT.—M. Vulpian communicated the results of his experiments upon this subject, conducted upon cats, to the Academie des Sciences, June 10, 1878. According to Nawrocki, the sudoriparous nerve-fibers for the anterior limbs run in the upper part of the thoracic portion of the sympathetic. This statement has been confirmed by the experiments of Luchsinger, and still further by those of M. Vulpian, who finds, however, that a feeble secretion of sweat can still be produced after section of the thoracic trunk. He also notices that the sudoriparous nerve-fibers which arise directly from the spinal cord are more numerous in the sciatic than in the brachial nerves.—*Lon. Med. Rec.*

PAULIER ON A NEW METHOD OF PREPARING THE SPINAL CORD —M. Armand B. Paulier (*Le Progrès Méd.* Oct. 26th) presented to the Académie de Médecine the spinal cords of certain animals, prepared by a new method which he calls *chemical dissection*. It consists in macerating the cord in a solution of 2 per cent bichromate of potash, and 4 per cent sulphate of copper; after eight or ten days the cord, stained a more or less greenish yellow, is placed for two or three days in a solution of 1 per cent of sulphate or hydrochloric acid. Generally, in two or three days the decolorization is complete, but hydrochloric acid imparts a soapy consistency to the cord, which disappears after maceration for twelve hours in a 1 per cent solution of chloral; at the end of these procedures the cord is tinged bluish, it is firm, resistant, sufficiently elastic to be handled with ease. It may be divided into parts in its whole length, or submitted to other reagents. In case the separation of the parts is difficult, it should be macerated for twelve hours in a mixture of equal parts of glycerine and water for some hours; and finally it is sufficient to remove all trace of discoloring, to leave the cord in pure water till the following day. This procedure dose not succeed so well with human cords as with those of animals.—*Lon. Med. Rec.*

EPULIS.—Mr. F. T. Porter said: This is a specimen of an epulis which I removed yesterday, and it presents a few points of interest, insomuch as it was connected with the upper front teeth, it being needless to observe that such growths are generally associated with the back teeth. It was of fourteen years' growth, the patient being now sixty years of age. I removed it by cutting down as far as possible without taking away any of the bone, for reasons I shall presently explain. This is a rough model [produced] of the epulis after the removal of the left upper central incisor, which was displaced by the growth. After the operation I found difficulty in arresting the hemorrhage from a small artery which I could not reach. I was enabled, however, to check the bleeding by the application of a small instrument (used by dentists) affording lateral pressure. I have no doubt that this instrument could be used with some advantage in similar operations. I now invite attention to the propriety of removing the bone in some such cases. It has been stated that epulis can not be cured without the removal of bone, but that opinion is not universally adopted. In this case I deemed it prudent to pursue a more conservative line of treatment, which I considered to be more consonant with the patient's age and weak condition. In addition, it appeared to me that the amount of force necessary to take away the bony attachment of such a large epulis might (especially in old persons), in cases in which the growth is connected with the upper front teeth, endanger the floor of the nose. I would not, however, say that the removal of bone would not eventually prove the more satisfactory course to pursue when circumstances permit.—*Path. Soc. Dub. Med. Jour.* C. W. S.

OBSTETRICS.

THE CÆSAREAN OPERATION IN LOUISIANA.—Dr. Robert P Harris, of Philadelphia, publishes in the *New Orleans Med. and Surg. Journal* of June, 1879, the record of gastro-hysterotomy for the State of Louisiana, which is entitled to be considered the *banner* State, so far as priority of performance and number of operations are concerned. Dr. Harris, who has with untiring energy done so much to work up the history of the Cæsarean section in the United States, finds that there have been nineteen such operations in Louisiana. The first of the series, though well authenticated, cannot be fixed as to date; suffice it to say, was performed by Dr. Francis Prevost during the early portion of the present century. The same physician operated in all four times, twice on the same subject—mother and child surviving in each instance. Of the nineteen cases, nine had deformed pelvis, and four pelvic exostosis. Fourteen women recovered and five died; all the subjects were black but one. In six instances, the operation was, as far as can be ascertained, performed early, resulting in the recovery of all the women, and saving four children, five having been alive on extraction, thus showing the advantages of promptness. In only two of the nineteen cases is the death of the child attributed to craniotomy. In ten cases where the duration of labor was prolonged, three women died, and all the children perished; eight of the latter died during the protracted labor. The whole of the operations saved 73$\frac{1}{6}$ per cent of the women, and 42$\frac{2}{19}$ per cent of the children. In three instances, the same women were operated upon twice, and all recovered. In these latter cases, five of the children were extracted alive, and three lived.

Taking the large number, and all the circumstances surrounding these cases into consideration, and we find no such favorable showing in any other State, unless it be Ohio, but here the number of cases reported are comparatively few. One of the cases reported by Dr. Harris from Louisiana, is truly remarkable in the fact that the operation was performed by an "old drunken plantation midwife," yet both mother and child survived. The brilliant showing which Louisiana makes in this operation, reflects credit on the skill of her country practitioners, though it is scarcely to be expected that her proud record can be maintained, when we reflect that the blacks (which constitute almost exclusively the subjects,) are now far less favorably situated in regard to systematic, intelligent nursing and hygienic particulars, than when in a state of slavery; neither can it be expected that they will be able to command the same surgical skill as under the old regime.

TREATMENT OF SEVERE VOMITING IN PREGNANCY.—Edward Copeman, M. D., F. R. C. P., (*British Medical Journal*, Sept. 28th, 1878,) has added five more to his already published cases of the successful treatment of vomiting in pregnancy by dilatation of the os uteri. The doctor says that up to the present time no failure has come to his knowledge when this treatment has been carried out fully. The os must be dilated so as to admit the finger easily.—*Detroit Lanet.*

WHEN SHALL THE LYING-IN WOMAN GET UP?—O. Küstner took occasion in the obstetrical clinic at Halle to test the value of Goodell's suggestion relative to the getting up period after labor, in the first days after delivery. He experimented with sixteen women whom he allowed to get up whenever they felt like it. Four got up on the first day, two on the second, three on the third, and seven on the fourth day. They remained up according to pleasure. Evacuation of the bowels was essentially better, the secretion of urine was not lessened, and of sweat but little lessened; the appetite was good. The loss of weight in these cases was not abnormal, although the lochia were more free. Involution of the uterus took place *en regle*. But as three of the cases showed fever, which the author thought due to maltreatment by exercise of the physiological wounds of the genital organs, and as this danger is always imminent, Küstner advises that lying-in women remain in bed about one week. In private practice the physician will be chiefly guided by the condition of the discharges, and will demand that patients remain in bed until all bloody discharges, or coloration of discharge, shall have ceased. —*Berlin Klin. Wochenschrift. The Am. Med. Bi-Weekly.*

WARM FOMENTATIONS TO THE HEAD IN CASES OF UTERINE HEMORRAGE.—Dr. Koehler (*Allg. Med. Central Zeitung*, No. 1, 1878) states that he has for the last seven years, in cases of uterine hemorrhage, applied warm fomentations to the head to prevent anæmia of the brain, and also to the heart. Hot sand-bags are also efficient, and the patients often will bear sand which is so hot that it can scarcely be touched with the hand. As soon as the fomentations or bag has been applied, conciousness is restored; the pulse grows stronger; the patient herself states that she feels better, that the ringing in the ears has ceased, and that she likes the appliance. As soon as it becomes cooler, she wishes it to be renewed. Dr. Koehler has, he says, saved patients even in most dangerous cases of hemorrhage by this proceeding, by which the physician never loses time, as the fomentation may be watched and renewed by any one. This method has been found equally efficient in anæmia caused by epistaxis, hemorrhages produced by wounds, etc.—*Am. Med. Bi-Weekly.*

A CASE of persistent menstruation through nine months of pregnancy is reported in the *Gazette des Hôpitaux*. W. C.

Correspondence.

A NEW THEORY AS TO THE FORCES THAT DETERMINE THE CIRCULATION OF THE BLOOD. By J. C. DARBY, M. D., of Mt. Sterling, Kentucky.

OLYMPIAN SPRINGS, KENTUCKY,
August 13, 1878.

To PROF. DANIEL VAUGHAN, M. D., Cincinnati, O.:

DEAR SIR—I have conceived a new theory as to the forces that determine the circulation of the blood. I send it to you.

Positive and negative electricity are two forces equally efficient. Bodies positively electrified repel each other, as do bodies negatively electrified; but bodies positively electrified attract those which are negatively electrified, and vice versa. I assume that in the animal body the left side of the heart and the arteries are positively electrified and that the right side of the heart and the veins are negatively electrified. I assume also that the arterial blood is positively electrified and that the venous blood is negatively electrified.

I assume also that the arterial blood is kept in a state of positive electricity by its continual union with the oxygen of the atmosphere as the blood passes through the lungs.

As I have to begin at some one point in the round of the circulation, I start from the right side of the heart.

The venous blood in the right ventricle being in a state of negative electricity, and the right ventricle itself being in the same electrical condition, they mutually repel each other. The pulmonary artery being positively electrified, attracts the blood in the right ventricle, which is negatively electrified. This constant repulsion between the venous blood and the walls of the right ventricle and the attraction between the blood and the pulmonary artery causes a continual stream of blood into the lungs, and explains why an artery conveys venous blood into the lungs. When this blood gets into the lungs the electrical condition is changed, and it becomes positively electrified by its union with the oxygen of the atmosphere. It is then in an electrical state, to be attracted by the pulmonary veins which, like all other veins, are negatively electrified. This explains why arterial blood is conveyed to the left side of the heart by veins and not by arteries. When this arterial blood in a state of positive electricity enters the left side of the heart it finds that organ also in a state of positive electricity.

In perfect health both the arterial bood and the left side of the heart are positively electrified to a high degree, and the repulsion between them is sufficient to propel the blood to every part of the body; the arteries being also positively electrified, continue this repulsion to their utmost extremities. As the blood passes from the arteries into the capillary system it parts with its oxygen and becomes negatively electrified, the reverse of what took place in the lungs. The blood thus changed in its electrical condition is forced into the veins, which are in the same electrical state that it, the blood, is. This is the only point in my theory which is not entirely satisfactory to me; but after the blood enters the veins the propelling force is clearly apparent—that is, the venous blood and the veins being in the same electrical condition, repel each other, and thus the blood is forced to the right side of the heart.

The activity and healthfulness of the circulation depend very much upon the purity and quantity of the oxygen the blood receives as it passes through the lungs. I believe that it is admitted that perfectly healthy atmospheric air contains a certain amount of ozone or electrified oxygen. Atmospheric air, which is not perfectly healthful, contains a less amount of ozone. The regularity and healthfulness, then, of the circulation, depend upon the purity of the atmosphere. Within an animal body, say man, I assume that the ganglia of the sympathetic nervous system are so many batteries generating electricity, whether positive or negative has yet to be determined; the spinal column and the medulla oblongata are batteries also generating either positive or negative electricity, I cannot say which; but I assume that the sympathetic nerves or their ganglia generate one kind of electricity and the spinal column and the medulla oblongata generate the other kind. What part the cerebellum plays in this electrical apparatus has also yet to be determined. I do not suppose that the brain proper or cerebrum generates either kind of electricity, but that it receives positive and negative electrical currents, as does the heart, the liver, or any other organ. If negative electricity is generated by the ganglia of the sympathetic nerves, then that system presides over the veins and the right side of the heart; if the spinal column and medulla oblongata generate positive electricity, then that system presides over the arteries and the left side of the heart. Now my object in sending this to you is to have you test the truth of my theory by experiment.

Your thorough knowledge of everything connected with electrical forces and of all apparatus used in the generation of electricity will enable you, I think, to construct delicate bodies and put them into positive and negative electrical states, each one being separate. Then apply one of these bodies positively electrified to an exposed artery, and see if they will not repel each other; and then apply the same to an exposed vein, and see

if they will not attract each other; and then repeat the experiment with a body negatively electrified. I would also want these delicately electrified bodies to be applied to a flowing current of arterial blood, which is positive, and to a flowing current of venous blood, which is negative. I have not the knowledge of electrical forces and of the apparatus used in their generation to determine these questions myself, and if I had, my deficient eyesight would not permit me to do it. I sincerely hope you may be willing to make an effort to test the truth of my theory, and if you do, I know you will soon determine whether it is the discovery of a great physiological truth, or merely the dreamings of my imagination. If you can get access to a slaughter-house you can readily make experiments on exposed arteries and veins, and also on flowing currents of venous and arterial blood.

Very truly, your friend, J. C. DARBY.

CINCINNATI, O., October 13th, 1878.

To J. C. DARBY, M. D., Mt. Sterling, Ky.:

DEAR SIR:—Your letter of August 3rd must have been delayed * * * I have not been able to give it as much consideration as it deserves, owing to ill health. In ascribing the circulation of the blood, partly or wholly, to the influence of electricity, your doctrine is somewhat analogous to one which I advanced in 1848 in regard to the movement of the sap in trees. It has been ascertained that the sap ascends by the wood of a tree to the leaves, and then descends by the bark and the cambium which lies between the bark and the wood. In a pamphlet entitled "Vegetation Traced to Natural Causes" I have shown that a circulation of galvanic currents is precisely the same course which the sap takes would result from the action of air and water at the roots, and the action of light on the branches. To these galvanic currents I ascribed the movement and the elaboration of the sap, and subsequently found that indications of electric action was found by Becquerel, Bud and others. The pamphlet alluded to was published in 1848, and was received very favorably by Dr. Yandell in the *Western Journal of Medicine and Surgery* for February, 1849. Although in a subsequent article I expressed some opinion of the probable part which electricity may act in the circulation of the blood, I did not pursue my inquiry far in that direction. Dr. J. W. Draper, however, about the same time expressed the same opinion that the action of heat is not capable of drawing the blood through the capillaries. The part which electricity plays in human organization was soon afterwards brought more prominently before the public by Alfred Smee, in his lectures on "Electro-Biology or the Voltaic Mechanism of Man"; his researches were mainly experimental and they were afterwards controverted by his opponents on the grounds that the living rabbits which he employed, had their vital functions deranged by mutilation, and by the insertion of his needles for testing the galvanic currents, and it was accordingly contended

that his results could not be considered normal. I have never seen Smee's reply to his critics, nor am I aware that he made any, but since his death his views do not seem to have received much attention. His doctrines were first announced in a lecture before the Royal Institution, and I think they have been published in the *London Lancet* for 1850, etc.

In bringing your doctrines before the medical profession, it will be well to consider that the idea of the action of the heart is so deeply rooted in scientific minds that it can not be easily eradicated. It may, on that account, be necessary to regard electricity as playing only a subordinate part, unless it can be shown that it produces the rythmical movements of the heart. In taking the last view there are some difficulties which it is not easy to remove. It is also necessary to consider that in experiments with statical or frictional electricity very perfect insulation is necessary, and this does not exist in the organs of the human body. It was such considerations that induced me to regard the electricity concerned in vegetation as of a voltaic or dynamic character and not analogous to that of the Leyden jar or the electrical machines. Your theory might, perhaps, admit of a similar modification. No insulation is necessary for the successful operation of a galvanic battery. I would like much to be able to aid you as much as possible by making experiments to support your doctrine, but in my present feeble health it would be impossible for me to do anything at the slaughter-houses of this city. * * * Besides this it requires the most delicate and expensive electrical apparatus to detect the very feeble electric currents circulating along the tissues of plants or any part of the animal body. * * * The idea of the analogy of the human frame and a galvanic battery is said to have originated with Napoleon Bonaparte about the beginning of this century on seeing one of the first batteries exhibited before Acadamie des Sciences at Paris. He pronounced it a resemblance of life.

Your sincere friend,

DANIEL VAUGHAN.

No. 43 WEST THIRTY-SECOND STREET,
NEW YORK, June 19TH, 1879.

EDITOR JOURNAL:—I am afraid that I am asking for more space in your journal than may prove profitable or entertaining to your readers. If you think so, please return this manuscript.

Dr. Borck, in his communication to your journal dated May 30th, 1879, says, addressing the editor of the *Hospital Gazette* (New York): "Will he please read this short extract found under the caption of "News Items, Medical Facts," etc., in the American reprint of the *London Lancet* for December, 1874:

'ONE HUNDRED DOLLARS REWARD.—Dr. Frank H. Hamilton offers one hundred dollars, says the *Cincinnati Clinic*, to any sur-

geon who will produce a case of fracture of the thigh in which no shortening has taken place. The diagnosis must have been confirmed by at least one medical man besides the surgeon who had charge of the case soon after the accident. The final measurement to be made by Dr. Hamilton himself, in company with two other surgeons. The patient must be above twenty, and should not have experienced paralysis or atrophy of the limb.'

"It may be that the *Lancet*," continues Dr. Borck, "has misquoted Dr. Hamilton, or that he may have been wrongly reported."

In my published writings I had already reported cases of fracture of the thigh treated by myself without shortening, under precisely those conditions required in the above proposition, and of course I never made any such offer of "reward."

The following, copied from the *Detroit Review of Medicine*, for July, 1874, pp. 430–431, will probably explain the source of the error into which both the *London Lancet* (American reprint) and the *Cincinnati Clinic* seem to have fallen:

"SYRACUSE, N. Y., July 9, 1874.

MY DEAR DOCTOR:—While spending a few days with my friends in this place, Dr. Didama handed me a copy of your journal for July, in which I find a report of the proceedings of the American Medical Association, lately convened at Detroit, which contains the following statement:

'Dr. Sayre said he knew his measurements were correct; that Dr. Frank Hamilton had made the measurements, and that he was a man so violently opposed to the theory that in his published writings he had denied the possibility of any oblique fracture being cured without shortening. For this reason he (Dr. Sayre) had asked him to measure the patients. He said if seven successive cases would be presented, he would agree to give up his opposition to the theory. He found the cases and surrendered.'

It will be understood that reference is here made to fractures of the femur.

Permit me to reply. *First.* I am not quoted correctly as to what I have said of shortening in the case of oblique fractures of the thigh. A reference to my published writings will show that Dr. Sayre has fallen into a slight error upon this point. *Second.* I have never seen 'seven successive cases' of perfect femurs after fracture. I do not think I have seen two, certainly not three.

The August number of the *New York Journal of Medicine* will contain a full statement of my experience in reference to cases which have lately come under my observation.

For the purpose of encouraging efforts in this direction, and for the advancement of surgical science, I offer a prize of one hundred dollars for seven examples of fractures of the shaft of the femur, (I will not say "successive"), occurring in persons over twenty years of age, who were not at the time of the injury

suffering from paralysis or atrophy of the limbs, which have been treated by the surgeon presenting the cases, and which have united without shortening. The diagnosis of the fracture to be verified by at least one other surgeon who was present at or near the time of the accident, and who assisted in making the diagnosis. The final measurements to be made by myself and two other surgeons; the latter to be chosen by the person presenting the case and myself. The opinions of the majority shall decide the case.

I would be thankful if other journals would repeat this offer in my name.

With sentiments of esteem, I remain, yours truly,

FRANK H. HAMILTON.

To LEARTUS CONNOR, M. D.

While I have no doubt that these and many other misquotations to which my writings on the subject of shortening the fractured limb have been subjected are accidental and unintentional, yet I think it has sometimes been done from a bad motive, since it has been done under circumstances where a misunderstanding or a mistake was impossible. With regard to Dr. Borck's misunderstandings and misquotations, neither of which does he seem to think were very material, I am happy to accept of his statement that they were unintentional.

Yours truly, FRANK H. HAMILTON."

IS PHTHISIS CONTAGIOUS?

EDITOR JOURNAL:—The question of the contagiousness of phthisis is exciting general attention, and the affirmative has many strong advocates. The clinical opportunities of any one physician are insufficient to determine this matter, but the aggregate experience of a number cannot but be of value. That such experience may be made available, I would be glad to receive answers to the following interrogations from such of your readers as may be interested in this subject:

1st. Do you believe that phthisis is in any sense or degree contagious?

2d. Upon what practical evidence do you found your belief?

3d. Please state the principal features of cases you have observed which have direct bearing upon this theory.

This request is to each one personally, and any evidence furnished will be gladly accredited. WM. PORTER, M. D.

500 N. 14th street, St. Louis.

Editorial.

THE YELLOW FEVER OF 1878 AND THE ST. LOUIS MEDICAL SOCIETY.

The St. Louis Medical Society, in November, 1878, passed resolutions looking to a careful collection of all the facts of the Great Yellow Fever Epidemic relating to the City of St. Louis. A committee of three medical gentlemen was appointed under the resolutions to collect a history of every case, and as far as practicable, to trace its origin, with especial reference to the question of contagion. The work is now accomplished and the report of the committee will shortly be published.

In this action, the Society has shown a most praiseworthy spirit, and a full recognition of the great importance of preserving an accurate record of the effects upon the population of St. Louis, of the large influx of refugees from cities where yellow fever was prevailing, and the direct result of cases occurring in the city upon persons necessarily or otherwise in contact with them. As St. Louis is upon the extreme frontier of the yellow fever regions, it has been highly instructive and important to note the influence of imported yellow fever upon her citizens, and it has been far more easy to determine the exact results of the contagiousness of the disease here, than is possible where yellow fever exists often or very extensively. Under the latter circumstances the origin of each case is shrouded in impenetrable obscurity. In this city, on the other hand, the facts have been quite uninvolved, and the origin of nearly every case, local or imported, has been clearly determinable.

We are gratified that the profession has not been controlled by any short-sighted policy leading to a suppression of the facts. These facts have been widely circulated, and will be told for us whether we like it or not, and it is, therefore, altogether best that we should tell them in our own way, neither seeking to hide nor extenuate anything. This is the spirit of truth and honesty, and of true medical science—that, consequently, under whose guidance, the interest of the half-million souls of St. Lous will be

best subserved. St. Louis is not only foremost, but absolutely unique in a work of this kind. The profession has determined that the terrible lessons of 1878 shall not pass unobserved nor unheeded—for they know that what has already occurred may be once again repeated, perhaps with more terrible accidents still; and they feel that hygienic lines of policy must be at once clearly defined, and the priniciples of sanitary science not merely formulated but scrupulously practiced.

OBSTETRIC FORCEPS.

An obstetric forceps wave is now rolling over the profession. It commenced about six weeks ago in London, and reached St. Louis in about three weeks. At this time, Dr. Maughs gave it an increased impetus, by reading a very able paper before the St. Louis Medical Society, in advocacy of the more frequent use of the forceps. This paper appears in the St. Louis Medical Society department in this journal. At a subsequent meeting of this society, Dr. Thomas Kennard read an equally able paper, the intention of which was to check the enthusiasm of the ultra advocates of the use of the forceps. At the next meeting of the society (July 12th), Dr. L. Ch. Boisliniere will defend the following five propositions:

1. The forceps are the instrument of the mother and of the child.
2. When properly applied, and with a correct knowledge of the mechanism of parturition, they can never do harm, and should, therefore, be used whenever labor is arrested, and for puerperal accidents.
3. Far from favoring the provocation of vesico or recto-vaginal fistula, or the laceration of the perineum, the timely application of the forceps tends to prevent these accidents.
4. Quicker and better recoveries and fewer puerperal complications follow the use of the forceps.
5. The statistics of lying-in hospitals are not conclusive on this question.

Usually the Society adjourns at this season of the year, over the warm nights, to the cooler evenings of September; but the interest excited by Dr. Maughs' paper, together with the "wave" alluded to, has kept up the fervor of the obstetric forceps question higher than the hot point of the thermometer.

THE REPORT ON YELLOW FEVER.

The Report of the Committee on Yellow Fever in St. Louis to the medical society will be published at once. This report comprises a detail of all cases, as far as practicable, occurring in the persons of refugees from infected localities; of all cases occurring in residents of this city, whether by contagion or otherwise; of the cases which occurred at Quarantine and on the Quarantine transport Steamer Edwardsville; the statement of the Health Commissioner respecting the measures taken by the authorities to guard against contagion in the city, and to provide for the sick arriving by train or steamer, and various tabulations and summaries of each category of cases. Appended to the main body of the report, is an analysis of the meteorology of St. Louis for 1878 and the four preceding years, compared with that of ten other cities of the Mississippi Valley, Gulf and Atlantic seaboard, with reference to the origin of sunstroke, sporadic cholera, malarial, yellow and other fevers.

MEDICAL ASSOCIATION OF THE STATE OF MISSOURI.

We will commence the publication of these transactions in the next number of the JOURNAL. They will form a department by themselves, like those of the St. Louis and Tri-State Medical Societies. These proceedings will make between 200 and 300 pages, and will be a valuable addition to the distinctive features of this journal.

SUBSCRIBE NOW.

Every practitioner and intelligent citizen of the Mississippi Valley, and especially of those localities which felt at least the imprint of the lion's claws last summer, should provide himself with a copy of the report of the yellow fever committee to the Medical Society of St. Louis. In the report all the main facts of the scourge of 1878 upon the largest city on the banks of the Father of Waters, whose location had hitherto sufficed to shield her against any perceptible damage from yellow fever prevailing at the South, are clearly set forth. Many of these facts are of the most interesting character, and are destined to exert a powerful influence upon the medical theory and sanitary practice, not only in St. Louis but in all the cities and towns along the Mississippi and its tributaries, as well as in rural districts in continuity by rail with Southern towns usually subject to yellow fever. Those who wish a copy should subscribe now, as the issue will be limited. The report will be issued during the present month. Address Dr. Thos. Kennard, Chairman Publication Committee, or this office. Price $2.00.

Book Reviews.

THE PRINCIPLES AND PRACTICE OF GYNÆCOLOGY. By THOMAS ADDIS EMMET, M. D., Surgeon to the Woman's Hospital of the State of New York, etc.; (with 130 illustrations.) [Henry C. Lea: Philadelphia, 1879.]

For this eminently original and truly great work the author deserves the gratitude and will receive the praise of the entire profession. Unlike many of the books with which the modern medical press teems, it is not a mere compilation of other men's labor, written for the selfish purpose of giving an ignorant pretender undeserved distinction, but an exposition of the candid and mature experience of an accomplished master, in a field of unexampled richness. The marvelous industry and conscientious zeal the author has evidently exerted, to formulate the laws of disease and analyze the results of treatment, are admirable, while the amount of available information he has condensed into convenient form for use, is unparalleled in gynæcological literature.

To Emmet's energy, ability, influence and industry, is chiefly due the existence of that wonderful disseminator of gynæcological knowledge, the Woman's Hospital of the State of New York. Dr. Sims deserted it in its infancy, and Dr. Emmet's fostering care rescued it from early death. Those who now inspect the stately structure, or are only acquainted with it through its far-reaching fame, little guess the troubles, the discouraging reverses and almost hopeless obstacles Emmet encountered and bravely struggled through, to establish firmly this proudest of American institutions. For this inestimable service the author deserves the grateful acknowledgments of science and of suffering humanity; but more admirable still is that devotion to truth which prompted him, though often importuned, to decline the role of teacher until he had amply tested his convictions by time and observation. Emmet's book—its originality makes it truly *his*—is now before the profession, to be tested by its intrinsic merit. In many respects it is in advance of the general standard of knowledge, and though a casual glance suffices to convince the discriminating reader of its superior worth, we predict that it will grow in professional favor, as time more fully unfolds the truths it contains.

Chapter I treats of the relations of climate, education and social conditions to the development of the young female, and gives some excellent advice in regard to the physical and mental training of girls, and of the importance of securing the normal establishment of the menstrual function. The author's observation

has deeply impressed him with the critical import of the adolescent period, and if he has succeeded in imbuing others with his own well-founded convictions relating thereto, he will have done good service.

Chapters II and III embrace a description of all the instruments needed for ordinary gynæcological purposes. We are pleased to observe that many of the worthless or worse than worthless ones that the indiscrimintion of authors, or their desire to compliment inventors, has so often led them to illustrate and describe, are expunged from this catalogue. New instruments, and especially new pessaries, are for the most part fraudulent bids for cheap notoriety, or else the genuine offspring of the crude, ill-digested experience of their originators. They have done immense harm, and it is time responsible persons gave them the cold shoulder. The precautions necessary to be observed in dilating the uterus, and the relative merits of different kinds of tents are also discussed. The importance of washing out the uterus after dilating it is insisted on. We adopted this practice before we knew it was pursued by Dr. Emmet, and bear testimony to its efficacy as a means of preventing septic inflammation. The author very properly asserts his claim to originality in the invention of several instruments in common use, for which he has not hitherto received credit. The uterine probe, generally supposed to be another's, and the applicator, used by every gynæcologist, are Emmet's. Several other important suggestions that have become common property without any proper recognition of the source from which they came, belong to the author. The hot water douche is a notable instance of this kind. No more valuable contribution than this has been made to the therapeusis of female disease, and its introducer should receive all praise.

Chapter IV gives a form for the convenient record of cases, designates the chief points to be considered in forming a diagnosis, and then proceds to demonstrate the method in which a physical examination should be conducted. The simple and direct, but precise and unostentatious manner in which this difficult task is performed, at once stamps the author as a most accomplished diagnostician, and we do not hesitate to pronounce it the best chapter ever written on the subject.

Chapter V is devoted to a discussion of the causes of disease, reflex and direct. It is prepared with the greatest care, is full of instruction, and evinces a high order of ability.

Chapter VI. The principles of general treatment are considered. Under this head the influence of the mind over disease—anæmia, indigestion, mal-nutrition, sunlight, diet, stimulants, anodynes, purgatives, rest in bed, dress and moral management—are treated in a manner that is highly instructive and interesting to the reader, and with a precision that gives assurance of the author's perfect familiarity with every detail of the subject. Per-

haps no man, of such extensive experience, has exercised such close personal supervision over his patients as Emmet, and this fact, coupled with his acknowledged ability as an observer, invests this chapter with more than usual interest.

Chapters VII and VIII are devoted to a consideration of the principles that should guide local treatment. The mode of administering, and philosophy of the action of the hot water douche, are explained at length and that with such minuteness and clearness, that if this supremely important, commonly used, but generally misused appliance, is not now comprehended and properly utilized, it will be the fault of the reader.

Much space is devoted to what the author denominates the *health-line of the uterus*. A clear understanding of the fact here pointed out, is the pivot on which the successful application of mechanical support turns. It is, indeed, the key that opens the door of relief to a very large class of cases. The author was the first to call attention to the importance of obeying the principle that underlies the fact he here elucidates, and its thorough comprehension will do much to remove the prejudice that exists against pessaries in the minds of many who never comprehended the purposes they should subserve, and better still, will do much towards relieving the prolonged agony of female invalids. The various substances used as local applications are rehearsed, and their respective merits canvassed; blisters to the cervix and intra-uterine injections, are also discussed. The author's testimony on the latter point, will enlighten some gynæcologists, particularly in the West, where they seeem to have a horror of this method of treatment. We applaud the strong stand taken against the indiscriminate custom now so prevalent, of cauterizing the uterine cavity. The author says: "Under the guise of uterine surgery the uterus has been subjected to a degree of malpractice which would not have been tolerated in any other organ of the body. Its cavity has been and still is made the receptacle for agents so destructive, that no conscientious man would employ them for the treatment of disease in any other organ of the body, without a full appreciation of his responsibility. But I trust we have already passed the heroic age and that in the treatment of these diseases we may be governed hereafter, by the same rational principles applicable elsewhere and that we may simply, as we term it in this country, exercise our "common sense."

Chapter IX relates to ovulation and menstruation. It is redolent with useful information arranged in statistical order. It evidently cost the author more labor and thought than any other chapter in the work. It is unlike anything hitherto written on the subject, and it will no doubt furnish texts for many future essays.

The next chapter is devoted to the abnormal changes in the menstrual flow; under which head, ammenorrhœa and menor-

rhagia are treated in a new and interesting style. The author opposes the theory of mechanical dysmenorrhœa, referring the pains to other causes. Justice cannot be done to his views in the necessarily brief space alloted to this article. While we believe there is much truth in his theory, it does not contain the whole truth, nor will it be generally accepted. Practically, dysmenorrhœa is obstructive, whether the obstruction be occasioned by a flexure of the uterus, by clots of menstrual blood or by shreds of decidual membrane. In most cases both these causes combine to cause the obstruction, and we incline to the opinion that the latter causes are secondary. When a man enlarges a canal and relieves dysmenorrhœa, as every gynæcologist in the country has repeatedly done, it is the most convincing evidence to him that the canal was too small.

In succeeding chapters atresia of the vagina, imperforate hymen, retention of menstrual blood, hematocele and pelvic cellulitis are elaborately explained. To the treatment of each of these conditions, the author has made important original contributions, and no one can read what he has written on them, without instruction.

Displacements of the uterus, their etiology and treatment, are ably and fully considered, and the subject of mechanical support is more correctly and practically presented than in any other work with which we are acquainted. Important contributions are made to the subjects of laceration of the perineum, procidentia uteri, inversion of the uterus, and indeed to almost every operative procedure recognized by gynæcologists. His idea of closing the cervix over the partially reduced fundus of the inverted uterus, is a most valuable suggestion, and though made more than ten years ago it has not attracted the attention its utility deserves.

Chapters XXIII and XXIV are devoted to lacerations of the cervix. The author was first to call attention to the pathological import of this frequent and important lesion, and also to point out the means by which it may be best rectified. Certainly no one has done more to advance the cause of gynæcology, or to alleviate the misfortunes of women, than Emmet; but had he no other claim to distinction than this one service, it would, as the great Sims remarked, entitle him to immortality. This subject is so practically and fully presented in all its details that nothing is left for future investigators to add to it; nor is there any reason why the student of what he has laid before him should not comprehend the whole subject as clearly as the author himself. The beneficent capabilities of this operation, and the far-reaching evils that emanate from the injury it is designed to repair, are only indistinctly discerned, even by experts, and the time is not distant when this fact will be recognized and admitted.

In the chapter that follows amputation by the cervix is held up to the light; and we are infinitely gratified to see that the author places himself squarely on record, as unequivocally op-

posed to the unscientific proceeding, except when necessary for the extirpation of malignant disease. The indications that are urged for its performance do not exist; the results claimed for it are not attained; the harm it has wrought is incalculable; nor will the deaths it has caused ever be known. The day will surely come, and we trust it is near at hand, when amputation of the cervix for non-malignant disease will be numbered among the things that are past.

Cancer of the uterus, fibroid and ovarian tumors, neoplasms and diseases of the vulva, are treated under separate heads, in an attractive and practical manner, and in each subject the reader will find new facts and theories that furnish ample food for observation and reflection.

Several of the author's theories are peculiar to himself, and are by no means orthodox; but this lends additional merit to any intrinsic worth they may possess. The system of moral hand-cuffing, and the want of moral courage, that has pervaded medical practice, writing and teaching, has long been a stumbling-block in the path of medical progress. While the restless, prying ambition that yearns after improvement, and is dissatisfied with what has already been done, serves to keep alive the spirit of enterprise and independence, and is the condition on which the life of science depends.

The new theories put forth by the author, are evidently the result of an honest searching after truth, of unsparing labor, and of patient, anxious reflection. Conclusions thus formed are not to be rejected nor discredited, simply because they conflict with other conclusions. The points to be ascertained are, are the arguments fair and the facts certain. Whether our author has obeyed these conditions, are questions on which a discriminating profession will finally pass judgment. Coming, as the theories do, from such eminent authority, whether they be right or wrong is the least part of the question, for they must excite the professional mind, stimulate fresh inquiry, and disturb with wholesome effect that love of routine that impels us to go groveling on in broad and beaten paths. Thus will they surely serve the interests of truth, for it has been truly said that the great enemy to knowledge is not error, but inertness. The author is certainly not indolent, and that he has not shirked the responsibility of dissenting from time-honored doctrines, redounds to the value of his work.

The volume contains 855 pages, printed and bound in excellent style. The illustrations are well executed, were prepared from drawings made by the author himself, and convey a correct impression of the conditions he designs to represent.

It is simply an indispensable book to all who treat female diseases, and contains more that is new and true than any similar work ever published. W. L. BARRET.

PHYSIOLOGICAL THERAPEUTICS—A NEW THEORY. By THOS. W. POOLE, M. D., M. C. P. S., Ont. Published by the Toronto News Company, the American News Company, New York, the National News Company, London.]

This book is written by a former pupil of Joseph Workman, Esq., M. D., M. C. P. S., one of the collaborators of this journal, and dedicated to the latter "in admiration of the valuable services he has rendered to medical and sanitary science as a skillful physician, a learned and eloquent teacher of medicine, and a warm friend of humanity."

The author states in his preface that "what is presented to the reader in these pages is not a new system of medical practice, but a *new theory of the inter-relations of nerve force and muscular tissue throughout the body*, including the relations of nerve and muscle in the coats of arteries whereby their calibers is regulated, and the mode of action of that large class of drugs which operate through the medium of the nervous system."

He does not claim that the "facts presented are necessarily new," but that the interpretation or explanation of them "is novel." The interpretation of them is not only new, but to our mind quite plausible, and in many instances incapable of refutation, as we shall see further along. The physician who would be a philosopher as well as an empyric in his therapeutics will find in these pages ample food and stimuli for vigorous thought.

The general principles which underly the work are contained in the following six propositions, and upon them the author has constructed a fabric attractive and strong in appearance—Doric rather than Corinthian, carrying out the architectural simile—but whether the whole structure is destined to endure, we leave to the tests of time and the discriminating judgments of those who shall examine the book.

First Principle.—The muscles and muscular tissues of the body generally are endowed with an inherent contractile power of their own, independent of nervous influence, but this contractile power of the muscles is regulated for voluntary purposes through the agency of the nervous system.

The author attempts "to show that this property of muscular contractility is capable of manifesting itself in the absence of any special natural or artificial stimulant—that is, that the muscular contractility displays its effects in the body when simply left to itself, and not restrained by nervous influence."

On the theory advocated by Dr. Poole, "the motor nerves and muscular fibers are natural antagonists, yet the latter is not divorced from the influence of the nerve centers even as regards the exercise of its contractile power; for not only by means of trophic or nutritive means, but also by means of the different nerves, transmitting to the center a yielding sensation from the muscles," are the muscles "kept *en rapport* with the central gan-

glia, and thus the power of co-ordination of the different parts of the muscular apparatus is duly maintained." "The regularity and efficiency of muscular motion in response to the will is provided for, without any apparent necessity for guidance from the motor nerves," from which the author infers "that any assumed stimulus from these nerves is not a necessity in co-ordinate muscular movements, and as a consequence that all the conditions of normal muscular activity are provided for by the restraining, not *compelling*, power of the nerves towards the muscles."

He asks us to "bear in mind that when we *will* to make a certain movement we are unconscious of the selection of special muscles, the will being only concerned and conscious of the aggregate result;" and in support of this brings forward the well-known physiological illustration of the *will* and the action of the larynx in the production of vocal sounds, it being impossible for the will to raise or depress the larynx as a whole, or move its cartilages, or extend or relax the vocal ligaments "by simply willing to do so, no matter how strongly." But when we conceive of a tone to be produced and will to produce it, the necessary co-ordination of movements takes place, "and the predetermined tone is the result." The author maintains that it is the same with the other muscles of the body. Besides the quoting of physiological opinion the author further brings to the support of his first principle such physiological illustrations as the following: "Rhythmical contractions take place in the rudimentary heart, when as yet no nerves or ganglia have made their appearance."

The admission of the attribute of "inherent contractility of the muscles" by the physiologists, the author construes, though they were not intended for that purpose, in support of his thesis.

The author confronts the physiologists with many apt quotations like the following: "It is contrary to all analogy to assign to one tissue the power of conferring vital properties on another. And surely it is not too much to suppose that a tissue-like muscle, so complex in its chemical composition, and so exquisitely organized for the development of its proper force, should be dependent on the nervous system, or a portion of it, for its contractile power," which he quotes from Todd and Barnard's Physiological Anatomy, p. 303. And he places Hanfield Jones and Edward Sieveking in the same boat, sailing before the same wind of doctrine, and likewise Dr. Anstie (Stimulants and Narcotics, p. 168), who associates certain convulsive phenomena with more or less complete paralysis.

Twenty-six pages are devoted to the discussion of the first principle under the sub-heading of Active (voluntary) Contraction, Passive Contraction (or tone), Irregular (Involuntary spasms), Contraction, Relaxation or Flaccidity, Syncope, etc., *rigor mortis*, but want of space forbids further extracts from them.

The Second Principle has already been indicated in what we have quoted from the author's amplification of his first. It is

that "the influence exerted by the nervous system in its relation to muscular tissue is that of a restraining, not that of a compelling, power."

The third proposition is that "electricity is not a stimulus to nerve or muscle. On the contrary, its action is that of a sedative, anæsthetic and paralyzer." "It is through this quality of its action," the author maintains, "that it soothes pain, while its tonic effects depend solely on the indirect improvement in nutrition, brought about by an infinite number of contractions and relaxations of muscular fiber whose spasmodic contractions depend on the same conditions as muscular spasms otherwise occurring," viz.: a partially paralyzed condition of some portion of the motor nervous system, setting muscular fiber force to contract, and not on any exalting or vitalizing quality whatever.

Fourth Proposition.—The contractions induced more especially in emstriped muscular fiber by ergot of rye follow the same rule—i. e., they depend on the withdrawal of nerve force.

Fifth Principle.—The muscular fiber of the middle coats of the arteries in the normal state tend continually to exert their inherent contractile power in lessening the caliber of these vessels, and so diminishing the blood supply, while the vaso-motor nerves ramifying among these muscular fibers, have for their function the restraining of this contractile power; and when predominant, aided by blood-pressure, induce dilation of the blood vessels, with correspondingly increased vascular activity.

Sixth Proposition.—Certain drugs, by modifying the activity of the vaso-motor nerves (increasing their power by nutritive changes in the cells which generate nerve force, or paralyzing the nerves themselves, and so arresting their functional activity), cause the increase or diminution in the caliber of the blood vessels, and so exert an important influence, not only over the nutrition and temperature of the parts, but in controlling congestive and inflammatory processes, and so restoring normal circulatory activity."

The author then proceeds to consider, in turn, the several principles or propositions just enumerated, and to support them "from the writings of the recognized authorities whose labors have built up the hypothesis" he opposes, and "from such general facts and considerations as he has been able to gather."

Under the head of "Links in the action of medicines in accordance with the theory" the author discusses the action of the different drugs. Aconite, veratrum viride, gelseminum, apomorphia, digitalis, conium, potassium bromide, hydrobromic acid, cannabis inchia, ergot, quinine, arsenic, lead, zinc, calabar bean, antimony, ipecac, mercury iodine, alcohol, ether, chloroform and chloral, "as drugs which paralyze vaso-motor nerve action and so tend to induce arterial contraction," and nitrite of amyl, glonoine, phosphorus, ammonia, turpentine, guiacum, sulphur, colchicum, arsenic, quinine, strychnia, jaborandi, alcohol, chloroform

and ether as "drugs which increase vaso-motor nerve force, and so tend to induce vascular dilation."

And he most ingeniously harmonizes the actions of them all with his theory, and concludes two hundred and thirty pages of thoughtful work by asking for his theory "no favor beyond that to which, on fair and candid consideration, it may be found justly entitled."

Barring a somewhat too frequent reference to the homeopathic pharmacopœia of Dr. R. Hughes we have no especial fault to find with the manner in which the author has done his work, though for the successful maintenance of so revolutionary a theory in physiology the author will find it necessary to go over a wider field of work and cope with many adverse facts.

We lay down the book regretting that we have not more time to criticize it, and with the confident assurance that whoever shall take it up and carefully read it will be amply repaid for his labor in the fruitful mental activity its pages will excite. At least the book has thrown the ideational centers of our cerebral cortex into a commotion from which we fear they will not soon subside. We shall examine our therapeutics all over again, to be assured that what we have been calling vaso-motor nerve stimulants are not in reality vaso-motor nerve paralyzers, and *vice versa;* and all on account of Dr. Poole having written this little book.

C. H. HUGHES.

TRANSACTIONS OF THE AMERICAN GYNÆCOLOGICAL SOCIETY; Vol. III., (for year 1878). Houghton, Osgood & Co., Boston, 1879.

The public, which has awaited with considerable interest the publication of the proceedings of the American Gynæcological Society, at their third annual meeting held in Philadelphia, Sept., 1878, will be amply repaid by a careful study of the handsome volume with which the publishers have furnished us. It is to be regretted that the publication of these transactions should have been so long delayed, and we venture to hope, that in future, arrangements may be consummated whereby this valuable addition to the literature of gynæcology and obstetrics will be placed in the hands of general readers by the first of January each year.

Want of space forbids an extended notice of individual papers, several of which have already been published in whole or in part, in the various journals of the country. No better idea, however, can be given of the scope and value of the volume before us, than by reciting simply the titles of papers presented, with the names of their eminent authors. The first paper is by Acting President, Dr. Wm. Goodell, of Phila., who occupied the chair in the place of Dr. Peaslee, deceased. After a formal opening, and handsome tributes to the dead President, and to Dr. W. L. Atlee, Dr. Goodell devoted the remainder of his address to an able discussion of the connection between *nerve tire* (*neurasthenia*), and womb disease.

2. "A Case of Rupture of the Perineum, without implication of the Vulva," by J. C. Reeve, M. D.

3. "On the Surgical Treatment of Stenosis of the Cervix Uteri," by J. Marion Sims, M. D.

4. "A case of Extra Uterine Pregnancy, with Discharge of the Fœtal Bones through the Bladder" by J. P. White, M. D.

5. "A Case of Foot and Head Presentation; Fracture of the Spine in Utero," by J. T. Johnson, M. D.

6. "The Necessity for Early Delivery, as Demonstrated by the Analysis of one hundred and sixty-one cases of Vesico-vaginal Fistula," by T. A. Emmet, M. D.

7. The Hand as a Curette in Post-partum Hemorrhage," by H. P. C. Wilson, M. D.

8. "The treatment of Post-partum Hemorrhage," by R. A. F. Penson, M. D.

9. "Dermoid Tumors of the Ovary," by W. H. Byford, M. D.

10. "A Contribution to the Study of the Treatment of the Acute Parenchymatous Nephritis of Pregnancy," by W. L. Richardson, M. D.

11. "Alternating Anterior and Posterior Version of the Uterus," by S. C. Busey, M. D.

12. "Remarks on Gastro-elytrotomy," by H. J. Garrigues, M. D.

13. "The Pendulum Leverage of the Obstetric Forceps," by A. H. Smith, M. D.

14. "Rectal Alimentation in the Nausea and Inanition of Pregnancy; Intestinal Exhaustion, an Important Factor, and the true solution of its efficiency," by H. F. Campbell, M. D.

15. "Unexpected Narcotism, induced suddenly on the third day of the administration of three-grain Suppositories of Opium," by J. P. White, M. D.

16. "Three Cases of Rupture of the Uterus," by T. Parvin, M. D.

17. "On the Early Delivery of the Placenta when Prævia; with the Relation of a Case of Spontaneous Separation of the Placenta without Hemorrhage," by I. E. Taylor, M. D.

18. "Treatment of Pelvic Indurations and Adhesions," by E. Van de Warker, M. D.

19. "On some points in the Treatment of Sterility, by A. Reeves Jackson, M. D.

20. "A Case of Extreme Ante-version, and Ante-flexion of the Uterus at full term of Pregnancy," by I. E. Taylor, M. D.

21. "The Mechanism of Retro-version and Prolapses of the Uterus, considered in relation to the simple Lacerations of the Cervix Uteri, and their Treatment by Bloody Operations," by N. Bozeman, M. D.

The volume is copiously indexed, to which is appended a very extensive and valuable obstetrical and gynæcological index, prepared chiefly by Dr. Billings; the whole very handsomely bound in cloth. W. COLES.

Books and Pamphlets Received.

A GUIDE TO THE QUALITATIVE AND QUANTITATIVE ANALYSIS OF THE URINE. Designed for Physicians, Chemists and Pharmacists by Dr. C. NEUBAUER, Professor, Chief of the Agricultural, Chemical Laboratory, and Docent in the Chemical Laboratory in Weisbaden, and Dr. J. VOGEL, Professor of Medicine in the University at Halle. With preface by Prof. Dr. R. FRESENIUS. Translated from the Seventh Enlarged and Revised German Edition, by ELBRIDGE G. CUTLER, M. D., Physician to Out-Patients at the Massachusetts General Hospital. Pathologist at the Boston City Hospital, and Assistant in Pathology in the Medical School of Harvard University. Revised by EDWARD S. WOOD, M. D., Professor of Chemistry in the Medical School of Harvard University. pp. 551, 8 vo. [New York: Wm. Wood & Co., 1879.]

[It has been customary for half a century to bind medical books in the whitest sheep skin leather that can be made. When just bound, this looks very bright and handsome, but with a few weeks handling becomes very dirty.

For some years Wm. Wood and Co. have been endeavoring to find a substitute, which, while equally strong and soft, would retain its fresh appearance for years.

The present binding a dark maroon color, is now offered for trial and criticism. It is not an imitation of Russia nor of anything else—it is simply cow skin, which is stronger than sheep skin. It is soft, and while the color will not show dirt nor stain, we believe will not fade. EDITOR.]

ELEMENTS OF MODERN CHEMISTRY. By ADOLPHE WURTZ, Member of the Institute, Honorary Dean and Professor of Chemistry of the Faculty of Medicine at Paris, etc., etc. Translated and edited, with the approbation of the author, from the fourth French edition, by WM. H. GREENE, M. D., formerly Professor of Chemistry in the Jefferson Medical College, Philadelphia, etc., etc. With 132 illustrations; 12mo.; pp. 687; $2.50. [Philadelphia: J. B. Lippincott & Co., 1879.]

DEMONSTRATIONS OF ANATOMY. Being a Guide to the Knowledge of the Human Body by Dissection. By GEORGE VINER ELLIS, Emeritus Professor of Anatomy in the University College, London. Eighth Revised English Edition. Illustrated by 249 Engravings on Wood. pp. 716. [Phila.: Henry C. Lea. 1879.]

THE THERAPEUTIC VALUE OF ERGOT. By. J. W. COMPTON, M. D. [Reprint from the *Detroit Lancet*, March, 1879.]

Lindsay & Blakiston, of Philadelphia, are engaged in publishing works on "Preventive Medicine," called American Health Primers. Edited by W. W. Keen, M. D. The following volumes are in press, and will be issued about once a month:

"Hearing, and How to keep it." By Charles H. Burnett, M. D., of Phila. "Long Life, and How to reach it." By J. G. Richardson, M. D., of Philadelphia. "Sea Air and Sea Bathing." By William S. Forbes, M. D., of Philadelphia. "The Summer and its Diseases." By James C. Wilson, M. D., of Philadelphia. "Eyesight, and How to Care for it." By George C. Harlan, M. D., of Philadelphia. "The Throat and the Voice." By J. Solis Cohen, M. D., of Philadelphia. "The Winter and its Dangers." By Hamilton Osgood, M. D., of Boston. "The Mouth and the Teeth." By J. W. White, M. D., D. D. S., of Philadelphia. "Our Homes." By Henry Hartshorne, M. D., of Philadelphia. "The Skin in Health and Disease." By L. D. Bulkley, M. D., of New York. "Brain Work and Overwork." By H. C. Wood, Jr., M. D., of Philadelphia.

POTT'S DISEASE, ITS PATHOLOGY AND MECHANICAL TREATMENT. With Remarks on Rotary Lateral Curvature. By NEWTON M. SHAFFER, M. D. pp. 82. 16 mo. [New York: G. P. Putnam's Sons. 1879]

VOL. I, No. 1. NEUROLOGICAL CONTRIBUTIONS. By WM. A. HAMMOND, M. D. and WM. J. MORTON, M. D. Quarterly. pp. 96. [G. P. Putnam's Sons. 1879.]

MANSILL'S ALMANAC OF PLANETARY METEOROLOGY AND NEW SYSTEM OF SCIENCE, for 1879. By RICHARD MANSILL. [Rock Island, Ill.; pp. 52, 4to.]

HAND-BOOK OF DIAGNOSIS AND TREATMENT OF DISEASES OF THE THROAT AND NASAL PASSAGES. By CARL SEILER, M. D. 35 illustrations. 16 mo. pp. 156. [Philadelphia: Henry C. Lea.]

COLOR BLINDEESS: Its Dangers and its Detection. By B. JOY JEFFRIES, A. M., M. D. 16 mo.; pp. 312, with colored plates. [Boston: Houghton, Osgood & Co. 1879.]

OYSTER-SHUCKER'S CORNEITIS. (*Corneitis Ostrearii.*) By. W. J. MCDOWELL, M. D. [Reprint from *Virginia Medical Monthly*, February, 1879.]

THE RATIONAL THERAPEUTICS OF SIMPLE FEVER. By J. E. TEFFT, M. D. [Read before the Springfield, (Mo.) Medical Society, and printed by its direction.]

EVOLUTION AND HUMAN ANATOMY. By STANFORD E. CHAILLE, A. M., M. D. [Reprinted from the *Medical Record*, February 22d, 1879.]

METEOROLOGICAL OBSERVATIONS.

By A. WISLIZENUS, M. D.

The following observations of daily temperature in St. Louis are made with MAXIMUM and MINIMUM thermometer (of Green, N. Y.). The daily minimun occurs generally in night, the maximum at p. m. The monthly mean of the daily minima and maxima added and divided by two, gives quite a reliable mean of the monthly temperature.

THERMOMETER, FAHRENHEIT—JUNE, 1879.

Day of Month	Minimum.	Maximum.	Day of Month	Minimum.	Maximum.
1	56.0	59.0	18	59.0	78.5
2	52.5	67.5	19	59.5	80.0
3	50.5	72.5	20	61.0	86.5
4	60.5	85.5	21	72.0	77.0
5	60.0	90.0	22	68.5	85.0
6	68.0	89.0	23	71.0	78.0
7	63.0	89.0	24	70.0	85.0
8	60.0	92.0	25	72.0	80.5
9	72.5	93.0	26	73.5	83.0
10	72.0	94.5	27	70.5	79.0
11	66.5	9 .0	28	68.5	77.5
12	69.5	90.0	29	63.0	81.0
13	69.0	91.5	30	66.5	84.5
14	75.0	96.5	31		
15	68.5	84.0			
16	65.0	70.5	Means	65.4	83.0
17	54.0	76.0	Monthly Mean	74.2	

Quantity of rainfall, 4.18 inches.

MORTALITY REPORT.---CITY OF ST. LOUIS.

FROM MAY 18, 1879, TO JUNE 14, 1879, INCLUSIVE.

Septicæmia..... 5	Cholera Infantum 51	Hydrocephalus & Tubercular Meningitis..... 5	Apoplexy 10
Measles 3	Inanition, Want of Breast Milk, etc. 19	Meningitis and Encephalitis 30	Cyanosis and Atelectasis..... 2
Syphilis Cong'al.. 1	Alcoholism..... 4	All Diseases of the Brain and Nervous System.....2	Premature & Preternatural Birth. 16
Scarlatina..... 2	Rheumatism and Gout.....	Cirrhosis of Liver and Hepatitis...10	Surgical Operat'ns 1
Pyæmia 0	Cancer 13	Enteritis, Gastro-Enteritis, Peritonitis, and Gastritis 14	Deaths by Suicide 9
Erysipelas..... 4	Phthisis Pulmon..52	Bright's Disease and Nephritis... 1	Deaths by Accid't 17
Diphtheria 3	Bronchitis 5	Other Diseases of Urinary Organs. 3	Total Deaths from all Causes.....461
MembranousCroup 0	Addison's Disease 0	Recto-Pharyngeal Abscess	Total Zymotic Diseases 132
Whooping Cough. 5	Pneumonia.....1		Total Constitutional Diseases.....100
Fibro-Cystic Tumor of Womb 1	Heart Diseases ... 5		Total Local Diseases 175
Typhoid Fever.... 3	Other Diseases of Respir'y Organs 5		Total Develop'tal Diseases 18
Cerebro Spinal Fe. 2	Entro-Colitis.....		Deaths by Viol'ce 27
Remittent, Intermittent, Typho-Malarial, Congestive & Simple Contin'd Fevers, 7	Marasmus—Tabes Mesenterica and Scrofula. 29		
Puerperal Disea's.15	Convulsions.....48		
Diarrhœal " 7	Aneurism		

CHAS. W. FRANCIS, *Health Commissioner.*

THE

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Original Contributions.

ARTICLE III.

THE HOT SPRINGS OF ARKANSAS AS A HEALTH RESORT—THEIR WATERS AS REMEDIAL AGENTS. By J. M. KELLER, M. D., of Hot Springs, Ark.

HOT SPRINGS, Ark., July 24th, 1879.

EDITOR ST. LOUIS MEDICAL AND SURGICAL JOURNAL:—With the double purpose of complying with an oft-made promise to you, and with a view at once to answer many questions which are daily asked me by the profession of the country, I have hastily and in as condensed form as possible prepared this paper, and submit it for your valuable journal.

The Springs are situated in Garland County, about sixty miles by rail from Little Rock, the capital of the State. They have their source on the west side of what is known as the Hot Springs Mountain, a spur of the Ozark Range. They are confined to, or have their origin in, a space of about six acres of ground, and left to their natural course, would empty into a beau-

tiful creek which dashes along the base of the mountain only a few yards from their heads. Just west of this creek and across a valley of not more than fifty yards, is the mountain known as the Cold Spring Mountain, from the sides of which gush numbers of clear, cold springs, which find their way also into the creek. In addition to these springs flowing from the two mountains, you can scarce go a hundred yards up the various little valleys or gulches without crossing other springs, many of them strongly impregnated with iron; and but a few miles out in one direction there are two or three very large, beautiful chalybeate springs, and still beyond them another and bolder one, widely known as the Mountain Valley Spring, the water from which is very decidedly tonic and diuretic. Its analysis is not known. South of the Hot Springs six miles is what is known as the Sulphur Potash Springs, a very popular resort for invalids after bathing awhile in the hot waters. These, like the other, have never been accurately analyzed; but experience and close observation teach me that their waters are very valuable, and their proximity to the Hot Springs seems a wonderfully wise provision of nature.

Just in the rear of the Hot Springs Mountain is a bold, dashing, clear mountain stream known as the Gulphur, which in the spring affords fine bass fishing as you approach its mouth, where it empties into the Ouachita River, seven miles south of the Springs. The latter abounds with genuine Potomac shad, black bass, salmon, and every variety of perch, affording delightful angling to visitors at almost all seasons of the year, but especially in the fall and spring time.

The general aspect of the country is mountainous, with many small and rich valleys, affording excellent garden spots for the supply of the markets. The forest growth is chiefly pine and oak, though nearly every Southern wood can be found interspersed, and great varieties of evergreens adorn every hill and dale. Especially remarkable is the luxuriant growth of forest trees and evergreens on the Hot Springs Mountain, in the immediate vicinity of the Hot Springs. There the soil is even richer than the valleys, and the foliage has a much deeper and richer verdure, and you could scarce find a more interesting garden for the botanist than the mountain and its surrounding valley affords him. Almost every variety of Southern wild flowers can be found here, the magnolia and jessamine being among the few exceptions.

The climate, for most of the year, is very delightful, being a happy medium between the severe cold of the North and the oppressive heat of the South, and, as a result, no season can be said to be most popular. The topography of the place and its surroundings is such that, whilst its mountains protect it from heavy winds, the valleys so connect with each other as at all times to produce a free current of air. Especially true is it that in summer, as the sun goes down, the wind invariably changes to the north, and during the entire night blows delightfully down the valley, and a blanket is comfortable in rooms with the northern exposure nearly every night in summer.

To say that late in summer the place is free from malaria would be untrue, but it can be truthfully said that no other point in the South or Southwest is more exempt than it is from chills and fevers.

The resident population of the place, including whites and negroes, is about 5,000. Among the former are four or five Protestant and one Roman Catholic Church, and the negroes have three or four Baptist and Methodist Churches.

As to the character and habits of the people, like all other places of the kind, they are mixed and varied. As a class, they are composed chiefly of restored invalids, who, having come here and regained health, have become fixtures. Many are engaged in mercantile traffic of one sort or another, generally on small capital. Some have been prosperous and made money, and do very extensive and lucrative business in various mercantile lines. More numerous than the merchants are the hotel and boarding-house keepers, ranging from first-class hotels to the poorest shanty boarding-house. Among the first are the Arlington, the Avenue, the Grand Central, the Waverly and French's Hotel.

Like all other places where visitors congregate in large numbers, we have here our share of sporting men, who, like the "profession" everywhere else, lose no opportunity to turn a penny if victims offer. They, though, and their ropers are not as dangerous or as much to be dreaded as another and more numerous combination of doctors (?) and their ropers who infest the place and every train which leaves Little Rock coming to the Springs. The gambler only endangers the invalid's purse—the latter class not only rob them of their money, but most likely of health with it. They are a peculiar and *confidential* combination, and a terrible curse to the fair fame of the Springs, and nothing

but the advance of civilization and medical enlightenment will ever serve to check them. The same trouble existed for years at Bath, in England, and was only corrected by the true medical profession of all England joining to put it down. Now that the Government is settling the titles to the lands adjoining and surrounding the Hot Springs Mountain, it will not be long before the present buildings will give way to palatial hotels, and with these changes we earnestly hope to see charlatanry, quackery and empiricism driven out by moral force and professional enlightenment.

For the following tables I am placed under obligations to Mr. Sam'l Hamblin, of the Engineer Corps, now on duty here, whose observations may be relied on as accurate:

	Monthly mean of max. and min. temperature.	Highest temperature.	Lowest temperature.	Inches of rainfall.	Number of rainy days.	
1877		29	15			
July	87.9	100° 31	49° 7	2.10	5	Generally clear, with showers.
August	91.1	102° 15	56° 6′ 30	2.76	6	Generall clear, with showers.
September	81.1	94° 3	54° 24	2.84	4	Night showers.
October. ..	70.7	87° 4	37° 31	2 89	5	Clear, with night rains.
November.	45	70° 19	26° 6′ 2	2.20	2	Clear, with light rains.
December	53	73°	12° 8′	5.79	4	Generally clear, with slow showers.
1878		26	5			
January:..	41	69°40′ 19	2° 8′ 11	5.22	5	Bright and clear generally, with showers.
February..	45	77° 24	18° 8′ 1	5.29	7	Cloudy, with light rains.
March	57	85° 7	23° 6′ 11	3.89	6	Night showers.
April.....	65	93° 31	31° 15–16	8.57	10	Night showers.
May	71	97° 27	42° 11	8.46	7	Night showers.
June	77	99°8	48°	5.48	15	Showers, chiefly with clear sky before and after.

The thermometers used in taking these observations were fixed in a small cage, which stood exposed the entire time. The average diurnal variations of thermometer were from 25° to 30°. The highest reading at 2 P. M., the lowest after midnight.

TABLE OF SPRINGS ON THE HOT MOUNTAIN, SHOWING THE TEMPERATURE OF EACH.

No.	Temp. Fahr.	No.	Temp. Fahr.	No.	Temp Fahr.	No.	Temn. Fahr.	No.	Temp. Fahr.
1	77	16	101	31	147	46	*Sipage	61	135
2	76	17	*Sipage	32	124	47	144.5	62	109
3	124	18	93	33	140	48	91	63	83
4	124	19	84	34	120	49	131	64	135
5	80	20	83	35	135	50	145	65	141
6	103	21	106	36	110	51	144	66	87
7	115	22	122	37	120	52	143	67	*Sipage
8	121.5	23	125	38	128	53	144.5	68	131
9	122	24	118	39	125.5	54	141	69	83
10	121.5	25	111	40	112	55	122	70	89
11	105	26	106	41	157	56	133	71	94
12	111	27	127.5	42	*Sipage	57	128		
13	135.5	28	145	43	144	58	*Sipage		
14	137	29	90	44	*Sipage	59	133		
15	134	30	134.5	45	111	60	134.5		

*Those marked "Sipage" are intermittent; all others *constant* and *unvarying* in *heat* and *quantity*.

The summit of Hot Springs mountain is 540 feet above the *lowest* point of what is known as the Government Reservation, four sections of land. It is 440 feet above the general level of the valley opposite to the Springs, and is 1,150 feet above the level of the sea.

What is known as the "Egg Spring," which has the highest temperature (157°), has also the greatest altitude, namely, 776 feet above the level of the sea. The lowest spring in altitude is 694 feet above sea level. The remainder range between these elevations. The lowest point on the reservation is 610 feet above sea level.

The amount of water discharged by these springs is estimated at more than 500,000 gallons every twelve hours, enough to bathe 20,000 persons daily.

Prof. E. H. Larkin, of St. Louis, in 1856, made a quantitative analysis, giving 8½ grains of mineral constituents to the gallon, the water analyzed being of a temperature of 145°. The following was the analysis:

	Grains.		Grains.
Silicic acid	27.74	Organic matter	8.31
Sesqui oxide of iron	1.12	Water	1.72
Alumina	5.15	Sulphuric acid	4.40
Lime	28.83	Potash	1.46
Magnesia	.73	Soda	2.01
Chlorine	.07	Iodine and bromine	a trace
Carbonic acid	21.36	Total	100.08

In June, 1858, Prof. D. D. Owen, formerly State Geologist, gave the following result of analysis made by boiling down one and a-half gallons of the water:

	Grammes.
Organic matter, combined with some moisture	1.16
Silica, with some sulphate of lime not dissolved by water	1.40
Bi-carbonate lime	2.40
Bi-carb magnesia	0.50
Chloride potassium	0.04
Chloride sodium	0.218
Oxide of iron and a little alumina	0.133
Sulphate of lime dissolved by water	0.350
Loss Iodine? Bromine?	0.053
Total	6.254

Later, in January, 1859, the same gentleman analyzed the water from what had been ignorantly called the "Arsenic Spring," but found no trace of that mineral in it. I presume if any arsenic was found in it, it reached it by sipage, the ground through which it siped having received it after it had passed through human kidneys.

With these hastily condensed answers to most of the questions, I come now to those which most concern the profession, and which are oftener asked. First, to what is due the heat? What are the diseases which are most benefitted by the use of the waters? and how do they act as curative or remedial agents?

Without being able to demonstrate it positively, I am satisfied, from close observation, that *electricity is the cause*, or at least that it certainly is very highly charged with electricity, as is evidenced by the very decided electric sensation produced upon any one who takes the baths. This, however, is a question yet to be determined by scientific investigation. My answer is only an opinion based upon watching the effects of the water, and upon a few simple experiments, which make me know certainly that it is heavily charged with electric force.

To adopt the sweeping, wholesale list of diseases published by many candidates for practice here as curable by the hot waters, would do great violence to truth, and, as has already been done, great injury to the Springs. To believe the "circulars" and other advertisements scattered over the country broadcast by some of the resident and itinerant doctors who come and go from here with almost each change of the moon, would be to be-

lieve that the "Fabled Box" would have again to be opened, to find an ill incurable by the springs.

For years, scarce any other class of disease came here besides syphilitic and rheumatic cases, and a visit to the place was secretly made by those who came. So much afraid were they of having it known that it was, in many cases the visitors had their letters either addressed anonymously or mailed to some neighboring post-office. All this delicacy of feeling and fear of being thought the victim of specific trouble have passed, and now it is fair to say that not more than two-fifths of cases among men are syphilitic, and not more than one in twenty among the female invalids.

It is true that syphilitic troubles are relieved here more rapidly and certainly than anywhere else that I know of. Experience in the treatment of this disease in private practice, and in hospitals for twenty-five years, and an intimate acquaintance with the Springs for twenty years, force this assertion. If asked does the water of itself cure syphilis, I answer positively, no. If asked, how it acts to effect more rapid and certain cures, the answer is simply that by its powerful eliminative and diaphoretic power, the patient is enabled to take, if necessary, tenfold more mercury and potash than he could possibly take without its aid; more than he could with the help of any artificially heated bath I have ever experimented with. Of the naturally heated water, patients can drink *ad libitum*, never *ad nauseum*, for it has never been known to produce nausea with any one. A bath at a temperature of 98° Fahr., with copious draughts of the water, will produce more profuse diaphoresis than the artificially heated bath will at 110°.

The daily assertions, and many circular statements that syphilis, under any plan of treatment here, can be cured in four or six weeks, are all false, and have done much to ruin the reputation which the Springs actually deserve. It is useless for any one to come here under any such assurances, expecting to be cured. They will surely be disappointed. They may, and generally do find all outward or visible manifestations gone after six weeks active medication and bathing, and may be persuaded that the disease has been eradicated, never to return; but the delusion seldom lasts very long, if they end their visit after that length of time. As a rule, if the desire is to effect a permanent cure, it is useless for syphilitics to come here unless they come deter-

mined to stay at least ten weeks. Then, if they have been properly treated, I am satisfied they can go home with a pretty strong assurance of the disease having been cured. It must be borne in mind that what I have said applies only to those who have no heart or lung involvment which would prevent the free use of the bath.

By far the largest class of patients who come here are rheumatics, and it is only those of the chronic forms that are benefitted. Acute inflammatory rheumatism is always made worse, and should never come to the Springs to be treated. Rheumatism from syphilis as a cause, invariably is rapidly relieved. Gonorrhœal rheumatism is much more intractable. It is not an unusual thing to see rheumatics who are required to be carried to the baths at first, walking nimbly in a week or two. Far from true is this, though, of most cases, for they require most generally very careful and long attention.

The same speedy cures are often made in neuralgic cases, the baths seeming to act magically. Other cases, though, are more unyielding and require every care and attention.

Scrofulous diathesis, when there is physical force enough left to stand the baths, is generally greatly benefitted, if not entirely cured.

Chronic uterine troubles, as a class, yield to treatment more readily with proper local and general bathing in the hot waters, than I have found them to do elsewhere. Specially are the climacteric ills in women corrected or greatly alleviated.

Diseases of the bladder, urethral track and kidneys, incipient spinal troubles, many of the diseases of the skin, alcoholism and nicotinism are among the diseases which experience teaches can be better treated here than I have ever been able to treat them elsewhere. It is a curious fact that the hot water don't mix well with whisky or brandy in the stomach, and as a result, when a fondness for it is contracted, the desire for alcoholic drink ceases.

But while it is true that the diseases I have mentioned are really more tractable when the usual plans of treatment are aided by the internal and external use of the hot waters, still, so little as yet is known of the scientific use of mineral and thermal waters and balneotherapy, and so much humbugging and empiricism practiced with their use or abuse, that it is not strange that the profession generally have but little confidence in any

good results to patients sent to such places, and that they go so far in most cases as to urgently advise against their patients even giving them a trial.

This opposition will continue until many of the evils alluded to are corrected, and until defective chemical analysis gives way to accurate and scientific investigation, which will enlighten us fully and satisfactorily in the theory of hydrology and balneology. The qualitative and quantitative analysis of mineral waters were not given until within the past half century, when Burzeline and Struve bent their energies and labors to the work, and during that short time more light has been thrown upon it than all preceding centuries ever gave, and although the advance has not been very great, we may safely say that a foundation has been laid for a complete and perfect understanding of balneotherapy. Like the springs of Bath, the Hot Springs of Arkansas should be classed as "Indifferent Thermal Springs," because their peculiar heat is their chief dynamic power, although this power may be modified or supplemented by gases and the small amount of saline materials contained. The warm or hot baths increase the heat of the body, partly by direct supply and partly by diminished radiation and evaporation—as cold produces more or less congestion of the internal organs, so, on the contrary, moist heat draws the blood from them to the external parts. Cold refreshes by stimulating the functions. Heat by physically facilitating them, and in this is the great and important difference between the cold water system and the thermal method of treating disease. It has been said that the warm or hot bath, during its administration and so long as its primary effects continue, favors, by means of the physically increased degree of heat, the normal physical and chemical condition of the cells, fluids, and organic tissues, thus stimulating the organic functions and increasing the change of substance without demanding strong reaction, but merely facilitating the physical conditions of life; whilst it lessens the loss of heat it undertakes the normal compensating reaction, and whilst it surrounds the skin with an equable temperate medium, it frees the loss of heat from all variations of time and place, and produces a quieting effect. The circulation in the skin and parts accessible to heat is accelerated just as by the cold bath, though the mechanical process is different. It is true that greater degrees of heat produce a stimulating effect upon the heart and brain, but this effect is gentle and

not accompanied by shock, and, moreover, the congestion in the peripheric parts draws away the blood from the central organs of the circulation and nervous system. In addition to all this, the well known property of warm water of softening the skin and of purifying it rapidly by exciting perspiration, of promoting absorbtion by stimulating the nervous center, and by increasing the circulation and pressure of the blood, thus distending the vessels, all go to add to the importance of it as a therapeutic agent.

But I am reminded that I have already made my paper longer than I intended, and whilst there is much more that I would like to say on the therapeutical action of the Hot Springs, I must close, not without hoping that I have answered some of the inquiries so often made of the place, as satisfactorily as possible until thorough scientific analysis and investigation can be had by scientists yet to be appointed by the government.

Translations from the Italian.

ARIGO AND FIORANI—A FEMALE MAN. By JOSEPH WORKMAN, M. D., Toronto, Canada. [*Translated from Ann. Univ. di Med.*, March, 1879.]

The authors describe the case of a woman presenting virile appearances, and who died at the hospital of Lodi, aged 68 years. The head was of masculine form, the nose aquiline, the face oblong, a beard thick and gray; nipples atrophied; no appearance of female breasts.

The *mons veneris* fully developed, and covered with copious gray hairs; undeneath this was a penis as thick as an ordinary thumb, and eight centimetres (three and three-twentieths in.) long, furnished at its extremity with a regular *glans*, wanting, however, the urethral aperture; along the posterior face of the penis and precisely in the line of the male urethra, between the *corpora cavernosa*, there was observed a sulcus, not covered by skin, but with a mucous coat rendered more consistent by its exposed situation; this sulcus continued to the root of the penis, and terminated at an orifice large enough to permit the passage of a goose quill. Proceeding from the sides of this orifice and descending to the perineum were two symmetrical prominences formed in like manner as the *labia majora* of the vulva, and covered externally by a few hairs, the interior surface being covered by a membrane more delicate than the skin, so that it might be taken for a mucous coating. These prominences, descending to the perineum, if superficially regarded, might have been mistaken for a scrotum sulcated by a large *raphe* and containing atrophied testicles; but when examined with care, they were found to correspond to the *labia majora*; these were quite impervious, being closed by the membrane above mentioned, which cut off communication with the internal parts.

In the abdomen was found a uterus of virgin figure and volume, and of normal conformation, both in its body and its neck; broad ligaments; Fallopian tubes and ovaries in the ordinary vir-

gin state. The bladder being opened, a gum catheter passed through its neck found exit through the orifice at the root of the penis. The vagina being laid open posteriorly, so as to display the cervix uteri, this part was seen of small, cylindrical, unusual size; and a second gum catheter being introduced into the vaginal canal (which was long, consistent and normally capacious), this found exit through the same orifice as the other, impinging first against the division between the two prominences formed by the labia majora, and in its departure from the orifice it showed a small opening.

We have here treated of a true woman, with perfect internal organs of generation, a clitoris over-large, a hymen constituted of the skin which closed up the part comprised between the labia majora, and also a vagina and urethral canal, which, instead of opening regularly to the exterior, formed a sort of *clouca*, with their outlets at the orifice at the base of the clitoris.

So far as regards the physical state of this interesting subject, the authors were able to ascertain but few particulars. She kept apart from young men of the same age, preferring to their amusements prayers and religious observances. She was of a mild disposition, rather economical, and quite sober. She did not attend the call for military duty, as she was an only son (so reported). There appeared to have been some question as to her sex at the time of baptism. She was, however, baptized and registered as a male, and as such conducted herself to the end of life, laboring in the rather heavy work of cheese-making.

Clinical Reports from Private Practice.

PARALYSIS CAUSED BY ACUTE INDIGESTION. By J. J. M. ANGHAR, M. D., of Fort Madison, Ia.

At 2 o'clock P. M., May 1st, 1879, was called to see W. E——, a dry goods clerk. I found him speechless, and the right superior extremity paralyzed.

At first he felt a tingling sensation in his right arm, while showing a lady some goods. Supposing it would soon pass away, he continued for some minutes working with his left hand. On finding it getting worse, he attempted to call to a fellow clerk, but found he was speechless, and became alarmed. On my arrival the alarm had become general—proprietor, clerks, as well as customers.

I found the right arm, from the shoulder down, as motionless and as insensible as a log. His eyes were straight; the mouth was in the center; the tongue easily protruded; intelligence normal; bowels had moved that morning, and felt well previous to the attack. The motor power of the vocal cords is derived from the spinal accessory, a portion of which arises as low as the sixth cervical nerve, and the brachial plexus has fibers arising as high as the fourth. I was not long in coming to the conclusion that we had a oneness of cause, and that it was not intra-cranial. The time of day—knowing that he had been to dinner—aided me in suspecting the stomach as the cause of all the trouble.

I ordered him to be taken home, about three or four blocks. On my way to the house I procured some fl. ex. ipec. As soon as he was in bed I administered a teaspoonful of fl. ex. ipec. and some warm water. In about fifteen minutes he vomited up his dinner just as he ate it two and a-half hours before. The paralysis disappeared as if by magic. That night I administered C. C. P. No. iii, to be sure that no offending material be left in the alimentary canal. He experienced some weakness for a few days, and returned to his duties, and has been well ever since.

After he was better I learned that he was in the habit of leaving the store about 11 o'clock A. M., and *running* to his dinner, eating or rather bolting it in a great hurry, and hastening back to the store. This day, on his way to dinner, he drank a glass of ice-cold bock beer, and ate with his dinner some sour krout, neither of which was he in the habit of doing, and thus brought on acute indigestion, which was the cause of the paralysis.

Proceedings of Medical Societies.

DISTRICT SOCIETY OF NORTHWEST MISSOURI.

ST. JOSEPH, MO., JULY 11TH, 1879.

Report of the seventeenth quarterly meeting of the District Medical Society of Northwest Missouri.

The Society convened at 11 A. M., Thursday, July 10th. Owing to the absence of the President and Vice-President, Dr. Bryan was called to the chair; Dr. D. I. Christopher, Recording Secretary.

After the transaction of some preliminary business the Society adjourned to 2 P. M.

AFTERNOON SESSION.

Society called to order. President Dr. A. Goslin in the chair; Dr. D. I. Christopher, Secretary.

The roll was called, and the following members were found in their places, viz.: Drs. W. H. Bryant, W. B. Adams, W. I. Heddens, Hugh Trevor, E. A. Donelan, C. J. Simmons, J. Geiger, J. M. D. France, J. P. Chesney, J. M. Richmond, S. F. Carpenter, A. Goslin, E. M. Manning, H. M. Wilson, J. P. Bergoff, F. A. Simmons, J. B. Howard, A. Mullins, D. I. Christopher, W. B. Craig, R. H. Smith, S. C. Thomas, G. C. Brown, A. McMichael, G. C. Catlett, A. P. Busey, C. F. Knight, J. D. Smith.

The following applicants for membership were, after being reported on favorably by the Committee on Elections, balloted for and elected members of the Association: C. C. Kemper, J. W. Heddens, Wm. Hunter, E. J. Kirschener, W. M. Hudson, J. T. Butler, A. O. Varner.

Dr. Kemper exhibited an extirpated eyeball, in which there was an ossific deposit of the size of an ordinary pea.

Dr. Bryant made a report of some of the advancements in medicine and surgery: as the transfusion of milk in chronic wasting diseases; the injection of hemorrhoids with carbolic acid; patellar tendon reflex in spinal sclerosis; the new treatment of morbus coxarius by elevating the sole and heel of the small foot by the addition of iron or leather, etc.

Dr. Geiger took the ground that there were two conditions of hemorrhoids that could not be treated successfully by injecting carbolic acid—the recent inflammatory and the chronic tumor.

Dr. Craig could not see the advantage of the new treatment of morbus coxarius over the short splint of Sayre; he did not think there was anything to be gained by keeping up extension four hours a day and then letting the muscles contract during the re-

mainder of the time; in fact, four hours was a long time to compel a child to remain on his crutches at one time.

Dr. Simmons made some remarks on the treatment of abscesses. He claimed that pus corpuscles were too large to be taken up by the absorbents.

Dr. Christopher wanted to know if he ignored the theory of the absorption of pus; if he believed in septic poison, etc.

EVENING SESSION.

Dr. R. H. Smith read quite an instructive paper on diphtheria in its relation to membranous croup, claiming there was no connection between the two. Diphtheria, with its false membrane, commenced in the pharynx, and croup in the larynx. He also reported thirty-three cases of diphtheria in which death ensued before the membrane formed. He claimed that death was produced by asthenia.

Dr. Geiger exhibited a specimen of cancer of the stomach and liver, on which subject Dr. Simmons made quite a lengthy speech. He thought the profession were going astray by running after all manner of instruments to supercede the use of the eye and ear, especially in the diagnosis of cancer.

Owing to the lateness of the hour the Society adjourned without discussing the regular question.

A. GOSLIN, M. D., President.

D. I. CHRISTOPHER, M. D., Recording Secretary.

LITTLE RIVER VALLEY DISTRICT MEDICAL ASSOCIATION.

Pursuant to previous notice given, the following physicians met in Malden, Mo., at 10 A. M. July 1st, for the purpose of organizing a District Medical Association, embracing the counties of Stoddard, Dunklin, New Madrid and Pembiscott.

Drs. V. H. Harrison, N. A. Page, R. G. Cook, D. C. Crawford, E. Van Quast, J. Chaney, H. G. Palsey, T. J. Edward, J. D. McAnally, John D. Timberman, N. F. Kelly, J. H. Van Metre, W. W. Carlow, B. F. Miller, Eli L. Anderson, D. M. Ray, F. A. Mays, T. J. Rhodes, J. W. Morris, A. B. Mobley, D. C. Pollock, F. M. Wilkins.

The meeting was called to order by electing Dr. N. A. Page, of Clarkton, temporary Chairman, and Dr. N. F. Kelly, of Kennett, temporary Secretary.

By request of the Chairman, Dr. E. Van Quast, in a very neat and beautiful speech, explained the object of the meeting, and the benefit expected to be derived from it.

On motion of Dr. Rhodes, the following gentlemen were elected Committee on Permanent Organization:

Drs. Cook, Mays, Kelly, Ray, Carlow.

On motion of Dr. Mobley, meeting adjourned until 1:30 o'clock, to give Committee on Permanent Organization, time to report.

EVENING SESSION.

Meeting met pursuant to adjournment.

Committee on Permanent Organization through their Chairman, Dr. R. G. Cook, made their report, nominating Dr. N. A. Page, of Clarkton, President; Dr. V. H. Harrison of Clarkton, Vice President; Dr. N. F. Kelly, Kennett, Recording Secretary; Dr. E. Van Quast, of Malden, Corresponding Secretary; Dr. D. M. Ray, Treasurer.

On motion of Dr. Rhodes, the report was approved.

On motion of Dr. Harrison, for President to appoint committee of three to draft constitution and by-laws. The motion was adopted, and the following gentleman were appointed as committee.

Drs. V. H. Harrison, Chairman; R. G. Cook, T. J. Rhodes.

While committee was drafting constitution and by-laws the meeting was entertained by remarks on different medical subjects by Drs. Page, Mobley, Chaney, Anderson, Timberman, Crawford, Pasley and others.

Committee, through their chairman, Dr. Harrison, reported the constitution and by-laws, which were unanimously adopted.

On motion of Dr. Harrison the Committee on Publication was ordered to have 100 copies of the constitution and by-laws published in pamphlet form for the benefit of the members.

The President appointed the following standing committees:

Committee on Record of Cases.—Drs. J. Chaney, Chairman; D. M. Ray, Jno. D. Timberman.

Committee on Progress of Medicine and Surgery.—Drs. V. H. Harrison, Chairman; F. A. Mays, A. B. Mobley.

Committee on Publication.—N. F. Kelly, Chairman; R. G. Cook, T. J. Rhodes.

The following gentlemen were elected Board of Censors: Drs. F. M. Wilkins, D. C. Crawford, E. Van Quast, J. D. Timberman, F. A. Mays.

Dr. V. H. Harrison was requested to deliver a lecture at the next meeting on the Pathological condition of the blood in Pneumonitis. Dr. A. B. Mobley was requested to deliver a lecture on the Natural Function of the Spleen, and Dr. J. H. Van Metre on the Mechanism of Labor, at next meeting.

Next meeting will be held at Malden, at 10 o'clock A. M., on first Tuesday in October.

On motion of Dr. Cook, the Association adjourned until next regular meeting.

N. A. PAGE, President.

N. F. KELLY, Secretary.

YELLOW FEVER.*

I think it may not be inappropriate, before engaging in our inquiries, to make a sort of confession of faith in advance, and statement of principles. In this way any misconception of my position on these subjects will be avoided, and the general drift of the meteorological studies about to follow more easily perceived. At the same time the reader will be better able, knowing my views beforehand, to judge in what degree I am justly authorized in holding the opinions to be presently expressed:

1st. Yellow fever is not a peculiar or so-called specific type of fever, but simply a malignant form of *typhus gravoir*. It is contagious in varying degrees, according to the susceptibility of those exposed to it, in different years and cities, and very probably most contagious when most malignant.

2d. Yellow fever is always *primarily* caused by the action of the effluvia of animal putrefaction upon the human body under cotemporary conditions of high atmospheric heat and humidity.

3d. When so originated, as it may be in any place whatsoever, where the above mentioned conditions are present in adequate intensity and for a sufficient *length of time*, being contagious, the disease is readily transferred by implantation into localities already affected by meteorological conditions similar to those among which it made its appearance.

4th. Yellow fever is most readily contracted by contagion, when the temperature and humidity are high, but a *long exposure* to its contagion will equally effect a manifestation of the disease, when the temperature and humidity are not excessive, and even when they are below their mean, provided unusual susceptibility exists.

5th. Yellow fever is caused, in the first instance, wherever it appears, by the emanations from putrefying animal matters, more especially the urine and fæces of man and animals, and is *propagated* by its own materies contagiosa.

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*Extracted from the Report of Dr. Ford to the St. Louis Medical Society on the "Meteorological Conditions and Etiology of Sunstroke, Cholera Sporadica, Malarial Diseases and Yellow Fever."

6th. The cities of warm regions near the sea level are especially liable to yellow fever, and as they are in continual communication with each other by land or water, all such cities must be regarded as a single compound center of civilization, with necessary relations to each other, and constant transference of inhabitants. The cities of this group are quite analogous to the wards and suburbs of any single city, which exist under similar meteorological and terrene conditions, and are in frequent contact with each other. As yellow fever may arise in any ward of a city, and be disseminated through it, or implanted in different wards by contagion, similar and concurrent meteorological conditions being presupposed, so likewise it may arise in any city of the compound group of cities known to be subject to it, and be transferred to other cities of the group, provided meteorological conditions are present similar to those of the place where it originated. Thus yellow fever may originate in Havana, and be rapidly transferred to Charleston, Mobile or New Orleans, while in each of these three cities and in the same year, even, yellow fever of purely autochthonous origin may appear and be transferred to Pensacola, Norfolk, or even to localities of Havana itself where the disease had not as yet been seen. In other words, yellow fever is produced in some one or all of the cities in which we first see it, or has been transferred thither by contagion.

It is often very difficult and even impossible to say positively whether any given case or outbreak of yellow fever is due to local causes purely, that is, simply autochthonous, or to contagion brought from a neighboring city separated from the one in which the disease appears, by spaces which are easily traversed in a few days at most, and often in a few hours. Nevertheless the fundamental origin of yellow fever, in the submission of the human body, at abnormally high and long continued degrees of heat and atmospheric humidity, to the influences of the effluvia of putrefaction, is to be unconditionally accepted, and no paradox whatever is implied in the assertion that a given case or outbreak may have been due, either to septic effluvia, *or* to the materies contagiosa. For although always autochthonous in the first instances, and in a great many cases, though by no means all, even in a city where we know it has been introduced, or more properly, *precipitated* from some other city, each local case becomes a focus, from which, in proportion to the facilities afforded

for communication, persons living in the immediate neighborhood, or at hundreds or even thousands of miles distant, may be directly affected.

In every season, therefore, nearly, yellow fever shows itself at some point of some one city of the general intercommunicating group of sea board and river cities; perhaps at several points of more than one city, and every such point of autochthonous yellow fever, serves at once as a focus, from which every other part of the same city, or any or all of the other cities of the group *may* be affected.

While, therefore, it is not possible to say in many cases, that a given case is or is not autochthonous or due to contagion, it is possible to affirm without qualification whatsoever, that every case of yellow fever is either in itself autochthonous or lineally descended through one or more cases, from a case that was autochthonous.

A general conclusion may be expressed as follows: Yellow fever is caused by influences of the atmosphere and soil acting on the body, and is transferable from body to body through the intermediation of zymogenous, particulate, portions of the fluids and semi-solids of the economy, imbued with fermentative proclivities pervading the entire body whence they have been derived, the *proper contagious matter.*

7th. The fact that a second attack of yellow fever in the same subject is not a common one (although I have seen three attacks in the same person), merely proves that at the time of the first attack, the system by its inherent power of reaction, was able to resist the disease successfully, and may, therefore, very reasonably be expected to do so ever afterwards more perfectly; so much so, as even to prevent the development of noteworthy fever, for it is a law under which we live, that successful reaction against disease implies, *ipso facto*, a strengthening and cultivation of the faculty of reaction. There is not, consequently, any necessity for assuming the *specificity* of the contagious element of yellow fever, for it is a fact, that by long residence or nativity in places where yellow fever often appears, an exemption, even more complete than that acquired by actual subjection to the disease, may be and usually is acquired. In such cases, the reactive power has been gradually and quietly exalted to the grade of intensity of the causes of yellow fever proper to the given

locality, but not sufficiently high for all places and conditions, for such exempts may contract the disease by exposure to very extraordinary meteorological conditions, in the presence of yellow fever, especially in conjunction with unusual fatigue. That the exemption from yellow fever due to acquisition of the disease or to so-called acclimation, is *not* comparable to the exemption from small-pox acquired by vaccination or inoculation, or similarly for measles and scarlet fever, is abundantly proved by the fact that this exemption from yellow fever is quickly lost, partially, or entirely, by mere absence from the locality to which the subject had become acclimated, or in other words, to whose usual conditions his economy had assimilated itself, the acclimation evidently consisting of a condition of the economy suggested by external influences, and maintained by the inherent reactive powers of the system, so long only, as the external assaults continued, but gravitating again towards a lower mean level of systemic balance, when by removal from the locality, such assaults are no longer made. Nothing of this kind occurs for small-pox, measles, or scarlet fever; an attack of either of these diseases, in the great majority of cases, protects its subject from the same disease, all over the world, after any period of exemption from contact with such diseases, and throughout life.

8th. Yellow fever is not, therefore, a specific self-protecting disease, but simply a disease of septicæmic character, primarily caused by the effluvia of animal putrefaction, and like all septicæmic diseases, more or less contagious. The materies morbi, or contagious particles, are exceedingly minute portions of the fluids of the economy, transudates or excretions, and consequently, when introduced into a second system, capable of determining a train of molecular movement, with induced reactive phenomena, precisely like those going on in the system whence they were derived. The act of contagion consists in the establishment in a second organism, by means of particles endowed with the definite zymogenous power belonging to every particle whatsoever of the economy which cast them forth, of a train of zymotic action wholly similar to that existing in the organism whence these particles were derived. The particles are yeast-like, and not living, nor capable of life, being derived originally from an organism whose integral parts and circulating fluids strongly tended towards putrefaction. Their qualities are not de-

stroyed by cold, but preserved by a low temperature, and are, perhaps, like those of the vaccine virus, annulled by continued humid heat, their peculiar zymogenous disposition being thereby determined in the direction of common putrefaction, which is well known, as in carrying a vaccine scab in the pocket, or in the occurrence of sloughing in soft chancre, to entirely destroy the peculiar properties of so-called specific viruses.

The object of the following analytical investigation is to show that yellow fever acknowledges as primary and indispensable to its existence, the conditions which are known to be primary and indispensable in the origination and maintenance of *putrefaction*, viz.:

a. Moisture, neither excessive nor deficient in quantity.

b. High heat of the earth's surface and of all things upon it.

c. High atmospheric humidity.

d. Stagnancy of the atmosphere.

By the term "yellow fever" I intend to imply what may be called "parent yellow fever," or the yellow fever of those foci, whence by contagion, under determinable conditions, individuals are affected by the disease at second hand, and epidemics caused and maintained.

The data in my possession for the purposes of this analysis are as follows:

1st. Published statements with regard to the appearance of yellow fever in 1878, as taken from various documents and from the public prints, and for years prior to this, from numerous articles which have appeared in current medical literature.

2d. The weekly meteorology of eleven cities of the United States for the four months of July, August, September and October of 1874, 1875, 1876, 1877 and 1878, furnished by the Chief Signal Officer from Washington, D. C.

3d. The necrological and meteorological reports from Charleston, S. C., for thirty-seven years, the series beginning in 1832 and extending to 1878, nine years of the series being unfortunately lacking, although their absence in no way affects the general indications of figures deduced from so long a series.

4th. Information in the way of documents or written answers to queries furnished from Health Offices, and by physicians resident in cities of the South and the Mississippi Valley, mostly.

These data, although by no means as compendious or systematic as I would have desired, will be found, I think, to be amply sufficient for the purpose to which they will be applied, and are indeed all that it has been possible for me to obtain after constant efforts of my own and of others who have interested themselves in the matter.

I now proceed to give a short statement of the principal facts connected with the outbreak of the yellow fever of 1878, in those cities whose meteorology is at my command.

[Concerning the date of the first cases of the epidemic in New Orleans, he learns from the "Conclusions of the Board of Experts" (Washington, Jan. 29th, 1879) that the first case of yellow fever started in that city on May 25th. The first death occurred on May 30th. This was an imported case. He learned from Dr. D. W. Brickell, in a personal interview, that several cases had occurred before the end of the first week of July.

In Vicksburg, he states that the first fatal case occurred August 11th. In Memphis, on the 13th of August, the physicians said that as yet there was no case of yellow fever in the city, but on the *same day* a genuine case of yellow fever was reported by river men. On this day, also, yellow fever was reported in Canton, Miss.

The first death in Mobile occurred August 31st.

In Louisville, August 13th, the steamer J. D. Porter touched, and had several cases of yellow fever on board.

The first death occurred in Cairo on September 10th.

In regard to the yellow fever in St. Louis, he says: "The facts in regard to the cases and epidemic form of outbreaks upon the steamer Edwardsville at Carondelet and at Quarantine have been fully set forth." He then continues:—ED.]

Recapitulating now the conclusions arrived at for the seven cities considered, in which yellow fever prevailed in 1878, and for which I have a weekly statement of the meteorological conditions, we have the following as a record, to which frequent reference will be made in the ensuing pages:

CITY.	Period of the Establishment of Yellow Fever.	Date of the first Local Cases.
St. Louis	23d of September to October 15th.	August 26th.
Louisville	25d of September to October 15th	September 16th.
Cairo	15th of September to October 7th.	September 9th to 12th
Memphis	3d week in August.	August 13th.
Vicksburg	3d week in August.	August 11th.
New Orleans	Two last weeks of July	July 12th.
Mobile	First two weeks of October.	August 15th.

I here present a list of the years for Charleston S. C., whose meteorological and mortuary records will be compared with each

other. The whole number of years is thirty-seven, and these are all, including 1878, for which the requisite data are obtainable, except by a personal visit on my own part, and computation anew from the daily books of record. The series is regular from 1832 to 1858, and is more or less irregular after this, nine of the years, as I have said, being deficient. I have made an effort to obtain the records for these years, but without success; their absence in no way, however, interferes with the propriety or significance of the system of inquiry to which those in my possession will be made subservient.

Years.	Hygienic Annotation.	No. of Deaths.	Years.	Hygienic Annotation.	No. of Deaths.	Years.	Hygienic Annotation.	No. of Deaths.
1878	Healthy.		1856	Yellow Fever.	212	1843	Yellow Fever.	8
1877	Healthy.		1855	Healthy.		1842	Healthy.	
1876	Yellow Fever.	30	1854	Yellow Fever	627	1841	Yellow Fever.	Sporadic.
1875	Healthy.		1853	Healthy.		1840	Yellow Fever.	23
1874	Yellow Fever.	40	1852	Yellow Fever.	310	1839	Yellow Fever.	133
1871	Yellow Fever.		1851	Healthy.		1838	Yellow Fever.	350
1869	Healthy.		1850	Healthy.		1837	Yellow Fever.	1
1868	Healthy.		1849	Yellow Fever.	125	1836	(Cholera As.,	392
1867	Healthy.		1848	Healthy.		1835	Yellow Fever.	24
1866	Yellow Fever.	1	1847	Healthy.		1834	Yellow Fever.	49
1865	Healthy.		1846	Healthy		1833	Healthy.	
1858	Yellow Fever.	716	1845	Healthy.		1832	Healthy.	
1857	Yellow Fever	13	1844	Healthy.				

The population of Charleston has varied of late years. In 1835 it was estimated at 35,000, and reached 48,000 in 1861. In 1868 it seems to have declined to 35,000, but is now supposed to be over 50,000.

For the proper application of the system of investigation which will be applied to these Charleston figures, it is necessary to group the years according to the number of deaths by yellow fever. The rule I have followed is an arbitrary one, but in accordance with the usual mode of expression in Charleston and elsewhere. Thus, where there have been no deaths by yellow fever, the year will be termed "healthy"; where the number of deaths by yellow fever has not exceeded thirteen, the year will be called "sporadic"; where the mortality by yellow fever has ranged between thirteen and one hundred and twenty-five deaths, the year will be classed as "least epidemic"; and where the mortality exceeded this latter figure, as "great epidemic." These designations being fixed in advance for *Charleston*, must be adhered to throughout. The absolute number of deaths oc-

curring in any year is of no paramount significance, but as these numbers have been fixed upon as accurately as possible, not merely for the purpose of truthfully denoting the comparative unhealthiness of different seasons, but in order to define a series of *four groups of years*, whose hygienic affix may denote these incremental grades of the prevalence of yellow fever beyond the level of "health," it is obviously necessary that no change of affix is possible. We thus have four nosological groups of years, *quoad* yellow fever; it will be seen that as the intensity of the yellow fever annotation rises, as denoted by the affix, so also will the meteorological intensities of all the true causes of yellow fever. The groups of years are as follows:

A TABLE SHOWING THE NOSOLOGICAL GROUPS OF YEARS IN CHARLESTON, S. C.

Six Greatest Epidemic Years.	Five Least Epidemic Years.	Five Sporadic Years.	Nineteen Healthy Years.	
1858 716 deaths.	1876 30 deaths.	1866 1 death	1878	1850
1855 212 deaths.	1874 40 deaths.	1857 13 deaths.	1877	1848
1854 627 deaths.	1849 125 deaths.	1843 3 deaths.	1875	1847
1852 310 deaths.	184 23 deaths.	1841 Sporadic.	1867	1846
1839 133 deaths.	1835 24 deaths.	1837 1 death.	1868	1845
1838 392 deaths.	1834 49 deaths.		1869	1844
1836 Chol. 392 deaths)			1865	1842
			1855	1833
			1853	1832
			1851	

In 1850 the dengue or "breakbone" fever prevailed extensively, but there were no recorded deaths by "yellow fever." I regard this disease as a hybrid between yellow fever and catarrhal fever, as one of its names, "catarrho-bilious fever," somewhat implies; the year is consequently classified as a "healthy year" *quoad* yellow fever. In 1836 Asiatic cholera prevailed with 392 deaths; there was not a case of yellow fever. This year has, however, been classified as a greatest epidemic year, but will never be included in the group, unless so expressly stated. As it cannot be introduced into the "healthy" years, in which no epidemics prevailed, but only such affections as catarrh, measles, or dengue, it will be omitted altogether from consideration, except when, in passing, it will be instructive to observe the high temperature and fairness of the days which qualfied the cholera season.

I must now briefly explain the principles according to which this investigation will be conducted.

About the year 1854, becoming interested in the etiology of yellow fever, after a general study of its history in Charleston and elsewhere, I became satisfied that we could arrive at no definite conclusions by ordinary methods of investigation. Facts were stoutly claimed and as stoutly denied by those who held opposite opinions with regard to the nature and contagiousness of yellow fever, nor was there any way of directly estimating the actual strength of the conclusions reached on either side. I was thus led to examine the meteorological figures, having a long series of years, recorded under the same system and by very reliable observers under the authority of the city, to compare with each other. After a number of very laborious but abortive efforts to determine a single figure, or "pestilential coefficient" for yellow fever, calculated from the several meteorological elements, I determined to apply a system which I have denominated "proof by the coincidence of the extremes and concurrent progression of the means," or the establishment of *primary agents, in the production and prevention of yellow fever.* With this system I was successful, in what degree will be seen from the abstracts drawn from these researches, as yet unpublished, but now brought up to date by the addition, lately, of all the years it is possible to obtain. What this system is, and what degree of probative power pertains to it, I shall now briefly indicate, premising that as all my most important conclusions with regard to the nature and origin of yellow fever were reached in the progress of these investigations, and are still to a great extent founded upon their results, my purpose in introducing short abstracts from them into this analysis, is to show, when considering each meteorological element in detail, the real significance of the figures when studied by the system alluded to, and thus render it easier for the reader to appreciate their value when they are estimated from periods of time far more limited than what we have at command in the records of Charleston. The usual method of demonstration, in researches of this kind, is that of "parallel movement," an example of which may be seen in our study of the relations of sunstroke to heat and humidity, of yellow fever to malarial fever and to "all fevers," and of its converse, or "opposite movement," in our comparison of cholera sporadica with malarial diseases. This system is only applicable with success, when the relationship between the two sets of data, either mandatively or prohib

itively, is direct, and under such circumstances may be employed for very limited periods of time. Its success depends essentially upon the non-existence of perturbing influences.

The system by parallelism, moreover, is the only one which can be employed where the number of years compared is too small to give accurate means, either of the meteorological or nosological intensities, but even here, will be found significant enough if any year of a series has been extraordinarily intense in either of those aspects. As such was the case in the year 1878, the yellow fever prevailing more widely than ever before in the West and Southwest, with most unusual exaggeration of the meteorological conditions nearly everywhere, I shall adopt this system in dealing with the records for the five years from 1874 to 1878, particularly, as from the unavoidable shortness of the period of time submitted to examination, no correct indications can be drawn from a consideration of the means of any two or more of these years.

The series of years recorded in Charleston is so long that the indications of the parallelism of the extremes can be tested by examining the movement of the means of the several nosological groups, thus enabling us to determine positively whether any inherent parallelism resides in a given series of figures or not.

Every composite effect is the result of both causative and opposing agencies, which are arrayed against each other. The nature of the effect differs with the preponderance of the combined influence of one class of agencies over the other. Each of these etiological classes must, moreover, contain agencies which vary in power, and which are still further dispensable or indispensable. We also find that the influence of many very powerful agencies is not exerted upon the effect directly, but upon it only through the intermediation of some other causative agent. Each division of causes is thus divisible into (*a*) primary or indispensable causes, and (*b*) secondary, or even tertiary, causes. When a primary agent is at its maximum of action, it produces its customary result with but little concurrent aid from the secondary causes, and in despite of even strong adverse action on the part of the antagonistic causes. So, also, when a primary agent is at its minimum of efficiency, or totally inactive, the known result cannot possibly occur, notwithstanding a high degree of activity in the secondary causes, or ab-

sence or great inactivity of the opposing causes. Such primary agencies, are main influences in the production or prevention of an effect; they are *causæ sine qua non*, as well as causes of absolute mandative power, under given conditions, which act concurrently with them as secondary and tertiary influences.

An investigation like the one in which we are engaged, is a search after such primary agents. It must be borne in mind that primary agencies vary as the result, where this is composite, though not for every incremental degree of the result. While their power is uniformy manifest at the extremes of intensity, medium degrees of such intensity cannot be expected to exhibit a close parallelism with the development of the result, but the means of any fractional part of a sufficiently long series of increments will show by their own parallel increase that the indications of the extremes are the effect of the constant, indispensable, and irrepressible power of the agency whose action it expresses.

An influence is thus recognized as a primary agency in the production of a result, when this result is coincident with the maxima of the incremental series of figures denoting the activity of the agent, and absent at the minimum of the series, and when the sum or mean of all these figures which are qualified by the result, is in excess of the sum or mean of all those against which the result is not placed,—and the recognition becomes absolute, when the progression of incremental groups of such results is in accordance with that of the means of the figures of the incremental series which properly belong to such groups. An influence is recognized as a secondary or tertiary agency when the maxima and minima of the incremental series coincide with the presence and absence of the assumed effect, and when the means of its figures properly belonging to groups of results already known to be progressive, are found to vary in strict parallelism with these last, while at the same time, collateral reasoning plainly shows that the relation of such an influence to the result, must from its nature depend upon the connnection existing between such an influence or agency, and a primary agency already established.

The recognition of agencies in the prevention of a result, is effected by an exactly converse method.

Such is the theory of the mode of investigation which I have applied to the Charleston data; it consists essentially in the estab

lishment, by an analysis of various columns of meteorological increments, of the coincidence of the extremes, and the concurrent progression of the means of the proper figures, with the extremes and means of the grouped incremental results respectively.

The underlying hypothesis, with regard to the etiology of yellow fever, to be proved or disproved, is, that the disease is caused by the known agencies of putrefaction in the presence of abundant putrescible matter. To establish this hypothesis it will be necessary to demonstrate that the primary and secondary agencies in the promotion of putrefaction upon the surface of the earth, are also primary and secondary agencies in the production of yellow fever, and conversely, for the primary and secondary influences which prevent common putrefaction, which should also prevent yellow fever.

The conditions of putrefactions are so well known, that for a recognition of its primary and other agencies of both kinds, it is not at all necessary to have recourse to systems of figures. Innumerable observations of a scientific character upon the modes of fermentation and putrefaction, and the constant attention paid to such processes in the arts as well as in the familiar duties of life, leave us but little to desire with regard to a knowledge of the fundamental conditions of all kinds of fermentation. We know when this process will take place; we know how to arrest and promote it, and we are familiar with the conditions under which it will not be established.

The direct kindling of yellow fever is to be attributed, in my opinion, to imbibition, by the lungs and perhaps by the digestive system, of the minute particles of decomposing matter, in proper kind, already mentioned, in virtue of which, septic processes advancing in putrefying foci on the surface of the earth, are *directly* transferred to the human fluids and solids, in an economy already predisposed toward the febrile state, as already briefly explained. These points I wish to state very clearly, to avoid misconception. This *transferred* septic matter acts exactly like the materies contagiosa itself; both are particulate; neither of them germinal, both are yeast-like, derived from substances in a condition of fermentative change; both alike require a previous predisposition or susceptibility for the manifestation of their properties; both alike, finally, are undoubtedly possessed of varying degrees of potency and the power of inducing predeterminate modes of change in the human or-

ganism, in all respects, perhaps, similar to those in which they themselves originated. These are the attributes of every particle of every fermenting mass.

It will be observed that I said nothing about "germs." I do not see any reason to believe that putrefaction, a world-wide process, the grand complement of *composition*, in steady progress from the death of the first living fragment of protoplasm to the present time, the only natural route whereby matter can sweep through its ceaseless cycle of integration and disintegration,—whereby inefficient and failing forms of organic life are dissolved into dust and thin air, under the moulding hand of nature to appear in new, more varied and more accurately adjusted embodiments, is due to the implantation of germs in fermentable matter. Nor can I believe for a moment, that so indispensable and majestic a process could possibly be dependent upon the chance of a deposition of sporules or any kind of germinal matter. A multitude of facts, moreover, entirely preclude our acceptance of any such narrow dogma, which has been imposed upon us by the anatomists, botanists and microscopists, while wholly at variance with the broad principles of organic and physiological chemistry. Here Justus Liebig still reigns, and in my opinion, will continue to rule for ever; *germs* are not the causes of putrefaction, but its accompaniments and products. The minute organisms, now so freely talked about, take their origin in the excitement and chemical commotion which belongs, in its very essence, to the fermentative state, appearing now, in our days and under our eyes, as they did upon the shallow shores and slimy ooze of the primeval waters, under the impulse of a creative power inherent in nature, then, now, and henceforth, by an act of creation, which not only steadily sustains all things, but perpetually reproduces the simplest "beginnings of life," even in the phials and flasks of Pasteur, Tyndall and Bastian.

Having thus very briefly stated the principles which must govern an investigation like the present one, I pass on to a succinct consideration of the meteorological conditions in detail. In each case I shall present abstracts from my researches upon the etiology of yellow fever in Charleston, for reasons already assigned, and as I have said, will employ for these latter the system of analysis which I have described as a search after "primary agents." For the five years of record and the eleven

cities, we shall be obliged to content ourselves with the simple system of "parallelism."

In the Charleston records, the three months—August, September and October,—are considered conjointly, separately, and in combination with each other; these months constitute what may be denoted as the "yellow fever season," since yellow fever never becomes epidemic in Charleston earlier than the month of August, at least according to the statistics of forty two years, which I have searched. In the Southwest and West, however, yellow fever may appear in July, seldom if ever becoming epidemic before that month, and I have consequently considered the four months July, August, September and October, as the "yellow fever season," or "summer" in the records for the eleven cities.

THE TEMPERATURE.

For the purposes of epidemiological investigation, it is strictly necessary to be provided with figures expressing, for various hours of the day and night, the proper *heat of the soil or surface of the earth*, as everything in contact with this surface tends to assume its temperature. Thus the temperature of the air, of fluids and solids in contact with the earth, of buildings, and even the body of man himself, is directly controlled by the temperature of the soil on which they rest. No such record, however, is attainable, and we are obliged to remain content with a record of the temperature of the air *near the earth*.

When the surface is covered by water, shallow collections alone concerning us at present, if the water is motionless, it soon becomes heated to a temperature approaching that of the solid surfaces near by, but if in motion, it yields to seasonal and geographical influences. It is obvious, from the long list of conditions alone detailed, that a bare mention of them must suffice.

The calorific power of the sun, so far as this depends upon its altitude, in our hemisphere, is greatest on the 21st of June and least on the 22d of December. On the 21st of June, the northern hemisphere would thus, as first sight, seem to have attained its maximum of heat, and the temperature of the earth should decline, it might be thought regularly towards the north pole. It is found, however, that the highest heat is reached about the end of July or beginning of August; at that time, for a short period, instead of diminishing towards the pole, the tem-

perature actually varies in the opposite direction. This unexpected fact is attributable to the sphericity of the earth and to the *accumulation* of heat. If the earth did not turn upon its axis, the influences of the sun alone, by such accumulations of its effects, would be powerful enough, very soon, to kindle a universal conflagration on the surface exposed to its action. We see an effect of this kind in the desolate character of the moon's surface, which revolves upon its axis only once in twenty-eight days. But as the diurnal revolution of the earth is accomplished with far greater rapidity, radiation at night counterbalances the effects of the constant action of the sun by day. The heat of the earth's surface, in this respect, is consequently determined by the number of hours of sunshine in a day or season, as opposed to the number of hours of night.

The maximum effect of the sun's radiation is attained sometime *after* a given spot has passed the meridian, and some weeks after the sun has attained its greatest northern altitude. Then the varying length of the days modifies the effect of the angle of insolation. When the sun is north of the equator the days are longer than the nights, and when the sun is south, the reverse obtains. Taking the temperature of the months, the highest point in the northern hemisphere is every where reached, as a mean of several years, in the month of July, the second or third week of that month, or even later. The following table shows the monthly mean of temperature in Charleston, which I have calculated from a series of twenty six years:

	Jan.	Feb.	M'ch	Apri	May	June	July	Aug.	Sept	Oct.	Nov.	Dec.
Means.....	50.40	52.3.	57.69	64.8	73.34	78.81	81.46	80.75	72.6.	66.81	58.19	51.87

July is the hottest month, though but little in excess of August; January is the coldest, for reasons which are the obverse of those explained in connection with the maximum of monthly temperature. The high temperature of the month of June will be noticed, only 2.61° below that of July. As yellow fever very seldom occurs in Charleston before the third week in August, we have thus about eighty days in which the temperature, as a mean of a long series of years, ranges in the neighborhood of 80°. In those years in which yellow fever prevails, the mean temperature of these eighty days is higher still. We shall find epidemic seasons are the hottest of all. The effect of this

long continued heat, upon the economy, is shown in a general exhaustion of the forces due to an unusual stimulation of the nutritive processes, in all cities where the annual mean temperature is high. The air becomes laden with humidity, whose influences, by preventing proper refrigeration of the body by the appropriate mechanism of the evaproation of the sweat, becomes equivalent to additional increments of temperature. Under the continued effects of an exalted and maintained heat and humidity, decomposition of all kinds becomes more active and its products being absorbed by the system, still further impair its reactive powers, and tends to establish a predisposition to fever. If now, the nights be calm, and foci of purtrefaction abundant, no very long period of time elapses before some one individual whose predisposition is exaggerated, or who has lately arrived from regions where his system has never before been called upon to exert itself so strenuously in reactive antagonism to assaults of so high a grade, becomes affected by the putrescent effluvia, and becomes ill with a bilious fever of septic character. A little later, others are still more profoundly affected, some of them vomiting grumous, blackened flakes; later still, the affection is characterized by distinct and unmistakable black vomit. Such is the usual course everywhere. The first cases are called maligannt, the later are disputed, until difference of opinion is no longer possible. So also, if an individual, predisposed towards fever, as above stated, comes into contact with the materies contagiosa of a previous case, on account of the power which this contagious element possesses of at once stamping the system with all those peculiarities of morbid action in which it was itself begotten,—we more often have a fully declared, unmistakable case of yellow fever, with black vomit, from the begining; yellow fever "*d'emblée.*" The gradually increasing severity of the earlier cases, and the absence of black vomit in the first cases, even when fatal, fully explains the differences of opinion almost invariably expressed by local practitioners as to their true character. Year by year, and whenever yellow fever appears, we encounter a similar contest of opinion which would not be engaged in so prominently, were this distinctly gradual development of yellow fever properly appreciated. Even in early cases indisputably due to the influences of contagion, the symptoms are somewhat obscure, at times. Turning now to the Charleston records. I present the following tables of increments of temperatnre in which the several

months of the summer are differently grouped, viz.: 1st. August and September. 2d. September and October. 3d. August and October. All of these are based upon the 7 A. M. and 2 P. M. registrations, the minima and maxima of daily temperature, while the later tables of temperature which follow these, will be based upon the 7 A. M., 2 P. M. and 9 P. M. registrations. These latter tables will therefore express the *true mean temperature*, while the first six of the series express only an arbitrary mean temperature which is not reliable as a record, though perfectly so for the purposes of comparison which concern us here. In this way we have quite a number of variations of the temperature figures. It will be found that, however varied, and into whatsoever combinations thrown, the indications of them all are identical. To show that this is so, is the object of the variation, which indeed I have practiced in a great many more forms than shown here, and always with identical results. I now present the following:

Table A: showing the increments of temperature, calculated from thirty-four years, from the 7 A. M. and 2 P. M. registrations for the months of August and September conjointly. The years 1875 and 1876 are calculated from the morning and afternoon observations of the Signal Service.

Years.	Temp	Hygienic Annotation.	Years.	Temp.	Hygienic Annotation.
1836	85.58	Cholera.	18 6	79.16	
1838	83.29	Yellow Fever.	1850	79.03	
1840	82.45	Yellow Fever.	1853	78.71	
1837	81.73	Yellow Fever.	1843	78.66	
1855	81.31		1852	78.65	
1834	81 15		1857	78.63	
1866	80.66		1847	78.60	
1833	80.51		1867	78.59	
1876	80.45		1851	78.01	
1854	80.43		1856	77.81	
1869	80 38		1875	77 70	
1841	80.05		1852	77 38	
1846	80.02		1844	77.01	
1839	79 94		1849	76 96	
1835	79.69		1848	76.92	Healthy.
1856	79.43		1845	76.37	Healthy.
1865	79.17		1842	76.12	Healthy.

The maximum is found in the cholera season. The three next highest maxima are yellow fever years. The minima correspond with healthy years. Subjoined is a table showing the movement of the means of the nosological groups, the cholera season being omitted.

Table B, showing the progression of the means for Table A:

Epidemic Years.	Sporadic Years.	Healthy Years.
Mean..... 79.8	Mean..... 79 7	Mean..... 78.28

The progression is regular, and corroborates the indications of the preceding table. We therefore conclude that *the mean temperature is a primary or indispensable agent in the production of yellow fever.*

I next present a pair of similar tables for September and October, conjointly.

Table C, showing the increments of temperature for thirty-four years, calculated from the 7 A. M. and 2 P. M. observations, and for the months of September and October, conjointly. The figures for 1875 and 1876 are calculated from the "morning and afternoon observations" of the Signal Service, viz., 7.24 A. M. and 4.24 P. M.:

Years.	Temp.	Hygienic Annotation.	Years.	Temp.	Hygienic Annotation.
1840	76.83	Yellow Fever.	1867	72.15	.....
1837	75.76	Yellow Fever.	1842	72.00	.....
1866	74.85	Yellow Fever.	1852	71 90	.....
1834	74.62	Yellow Fever.	1843	71.89	.....
1839	74.46	Yellow Fever.	1844	71.43	.....
1836	74 26	(Cholera.)	1841	71.31	.....
1868	73.90	.....	1850	71.25	.....
1838	73.55	.....	1835	71.18	.....
1869	73.55	.....	1849	71.15	.....
1833	73.34	.....	1853	71.11	.....
1872	73.09	.....	1848	71 05	.....
1865	72.82	.....	1851	70.93	.....
1854	72.87	.....	1856	70.71	.....
1846	72.54	.....	1876	70 52	.....
1847	72.40	.....	1857	70.04	.....
1855	72.32	.....	1845	69.64	Healthy.
1858	72.16	.....	1875	69.22	Healthy.

The maxima indicate yellow fever seasons, and the minima healthy seasons.

I present, below, the corresponding table of the means.

Table D, showing the movement of the means for Table C:

Epidemic Years.	Sporadic Years.	Healthy Years.
Mean..... 72.8	Mean..... 72.7.	Mean..... 71.86

The progression is regular, although the difference between the means of the sporadic and epidemic years is but slight. We must recollect that, in consequence of the omission of the 9 P. M. registration from these tables, the general and exceptional grades of temperature are reduced below their true figure, the 9 P. M.

temperature being naturally intermediate between that of the morning and afternoon.

I present a pair of tables of similar character for August and October conjointly, September being purposely omitted.

Table E, showing the increments of temperature for thirty-four years, calculated from the 7 A. M. and 2 P. M. registrations, and for the months of August and October conjointly. For the years 1875 and 1876, the temperatures have been calculated from the "morning" and "afternoon" observations of the Signal Service:

Years.	Temp.	Hygienic Annotation.	Years.	Temp.	Hygienic Annotation.
1837	78.81	Yellow Fever.	1846	73.83	.....
1834	76.85	Yellow Fever.	1832	73.64	.....
1839	76.58	Yellow Fever.	1866	73.57	.....
1836	76.58	(Cholera).	1853	73 54	.....
1840	76.38	Yellow Fever.	1867	73.46	.....
1858	76.08	Yellow Fever.	1850	73.27	.....
1838	76.04	Yellow Fever.	1844	73.25	.....
1869	75.94	.....	1865	73.17	.....
1835	75.64	.....	1848	73.16	.....
1852	75.30	.....	1876	72.77	.....
1864	75.05	.....	1841	72.72	.....
1847	75.05	.....	1843	72.41	.....
1851	74.79	.....	1857	72.23	.....
1832	74.52	.....	1875	71.82	Healthy.
1856	74.34	.....	1845	70.88	Healthy.
1849	74.28	.....	1842	69.87	Healthy.
1855	74.12	.....	1868	68.18	Healthy.

The maxima coincide with yellow fever years, and the minima with healthy years. Subjoined is the accompanying table of the means:

Table F, showing the progression of the means for Table E:

Greatest Epidemic Years.	Least Epidemic Years.	Sporadic Years.	Healthy Years.
Mean 75.56	Mean 75.18	Mean 73.95	Mean 73.88

The progression is regular, and corroborates the indications of the previous table. According to this record also, therefore, the temperature is a primary agent in the production of yellow fever.

I present, in the next place, a pair of tables for the proper yellow fever season in Charleston, viz., the three conjoint months, August, September and October, in which the figures given are the true means of temperature, being based on the three daily observations.

Table G, showing the increments of temperature, calculated from the day and night means of the register thermometer for those years through which this record extends, and for years previous or subsequent to this, from the 7 A. M., 2 P. M. and 9

P. M. registrations, and for the months of August, September and October conjoinly, for thirty-seven years:

Years.	Temp	Hygienic Annotation.	Years.	Temp.	Hygienic Annotation.
1836	77.17	Cholera.	1858	74.84	.....
1834	76.96	Yellow Fever.	1856	74.62	.....
1840	76.91	Yellow Fever.	1847	74.37	.....
1839	76.38	Yellow Fever.	1832	74.34	.....
1828	76.28	Yellow Fever.	1853	74.26	.....
1877	76.20	.....	1848	74.17	.....
1854	76.10	.....	1841	74.15	.....
1837	75 83	.....	1843	74.05	.....
1835	75.45	.....	1846	74.03	.....
1850	75.37	.....	1876	74.00	.....
1869	75.33	.....	1867	73.78	.....
1833	75.27	.....	1874	73.56	.....
1855	75.24	.....	1857	73.52	.....
1868	75.19	.....	1844	73.22	.....
1878	74.94	.....	1849	72 98	.....
1865	74.94	.....	1842	72.55	Healthy.
1852	74.92	.....	1875	72.35	Healthy.
1851	74.90	.....	1845	71.80	Healthy.
1866	74.89	.....	....	....	.....

The maxima of temperature exhibit their influence in the annotation of "yellow fever" to the four next highest figures. The cholera season of 1836 heads the season; this was the hottest ever known in Charleston. The other figures to which there is no annotation, as in all these tables, indicate years in which yellow fever sometimes prevailed or did not. Their indications are unimportant, as the table is intended to show the power of the temperature in compelling the existence of health at its minima, and of pestilential seasons at its maxima only. By the theory of this mode of proof, the indications of the middle figures of an incremental series are unimportant.

Table H, showing the progression of the nosological means for table G:

Greatest Epidemic Years.	Local Epidemic Years.	Sporadic Years.	Healthy Years.
Mean, 75.52	Mean, 74.98	Mean, 74.45	Mean, 74.33

The progression is seen to be regular. The average temperature of the healthy years is less than that of the sporadic years. The mean temperature of the sporadic years is lower than that of the least epidemic years, and the temperature of the greatest epidemic years is the highest of all. This table is therefore strictly confirmatory of all the foregoing tables, and especially of Table G, and proves beyond all dispute that the mean temperature is a *primary agent in the production of yellow fever;* not merely *a condition of yellow fever*, but a resistless cause thereof. The influence of other conditions is recognizable in

the perturbation of the middle figures of each incremental series. The temperature is, therefore, a cause without which *yellow fever cannot exist*, at whose maxima yellow fever in intensity of some degree, though not of necessity of the highest degree, *must exist*, provided moisture and putrefying matters are concurrently present, and a causative agent, whose efficiency is proved by the march of the nosological groups, in strict parallelism with the means of the temperatures of those groups respectively. The cholera year has been omitted from Table H because the inquiry is not concerning the etiology of that disease; and this year cannot with propriety be included in the list of healthy years, not even *quoad* yellow fever. Had it been placed among the greatest epidemic years — which would be proper, perhaps, in some respects — its figure, highest of all, would only have heightened the mean for such years in Table H.

I present, finally, a pair of tables in which the temperature for the months of August, September, October and November are compared. It will be seen that in yellow fever seasons, even in the month of November, when the cases are few and epidemics rapidly disappearing, it is usually hotter than in healthy seasons, and that the variations of its figures are not pronounced enough to affect means based upon a combination of the three previous months, such as we have just considered.

Table I, showing the increments of temperature, calculated from the day and night means of the register thermometer for all the years through which this record extends, and for years previous to this, from the 7 A. M., 2 P. M. and 9 P. M. observations, and for the months of August, September, October and November conjointly:

Years.	Temp.	Hygienic Annotation.	Years.	Temp.	Hygienic Annotation.
1837	74.12	Yellow fever.	1883	70.64	.....
1835	72.81	Yellow fever.	1865	70.60	.....
1834	72.36	Yellow fever.	1866	70.48	.....
1855	71.98	.....	1851	70.42	.....
1840	71.91	.....	1844	70.35	.....
1838	71.44	.....	1852	70.33	.....
1850	71.41	.....	1846	70.28	.....
1839	71.39	.....	1868	70.22	.....
1847	71.21	.....	1849	70.20	.....
1857	71.13	.....	1843	69.94	.....
1854	71.04	.....	1857	69.44	.....
1869	71.04	.....	1876	69.30	.....
1856	71.01	.....	1875	69.06	.....
1853	70.92	.....	1858	68.94	.....
1841	70.89	.....	1848	68.90	Healthy.
1862	70.70	.....	1842	67.70	Healthy.
1836	70.70	.....	1845	67.37	Healthy.

The maxima correspond to yellow fever seasons, and the minima to healthy ones. I present also, below, the companion table of the means.

Table J, showing the progression of the means of the noso logical groups, for table I.

Epidemic Years.	Sporadic Years.	Healthy Years.
Mean, 71.01	Mean, 70.97	Mean, 70.21

The progression is regular, and corroborative of the indications of the companion table, I. The month of November, in Charleston, does not properly belong to the yellow fever season, as the cases which occur in that month are almost exclusively due to infection at previous periods. Nevertheless, the inherent strength of the figures is such that they are able to bear even this test.

These tables demonstrate, with an authority which admits of no question, that high heat is one of the primary causes of yellow fever. That when the heat is unusually high and long continued, *other meteorological conditions*, especially stagnancy of the air concurring, yellow fever will necessarily appear, and conversely, that at the lowest temperature known at Charleston, yellow fever *cannot originate, nor spread, nor be engrafted by importation.*

We must recollect that when yellow fever has originated in the midst of very hot weather, on account of its proper contagious character, it will become disseminated, although the mean temperature decline so greatly as to reduce the general mean of the month, or even of the particular season, to a point lower than that of the mean of years in which no yellow fever has occurred. The fact remains true, nevertheless, that the fever would never have existed without the agency of the excessively high temperature, an assertion which we have been happily able to substantiate in consequence of the action of a meteorological law which determines that a season which is very hot in July and August, will continue, almost invariably, to be hotter than its mean until December. Thus it is, that yellow fever seasons are almost always longer than usual, and the desired frost is postponed by the activity of the very causes which have generated the disease and still sustain it.

Having now considered the agency of temperature in the generation of yellow fever in Charleston during the last forty-

seven years, I proceed to examine the data in my hands relating to the great epidemic of the West and Southwest in 1878. The series, which is the longest for which records can be obtained from each of the eleven cities, viz., five years, is still altogether too short to admit of any elaboration of means of groups of years, as has been possible for the long series of the Charleston records. We can only use the system of parallelism or comparison, and in some instances note distinct progression. The figures are in most cases so pronounced, in consequence of the inordinate intensity of the meteorological elements of 1878, that it will be easy to seize their most prominent indications.

I subjoin a table of the mean temperatures for each of the four summer months, with the monthly, seasonal, and great seasonal means, for each of the eleven cities. This table, and others like it, to follow, have been abstracted from the published annual reports of the signal officer, except for 1878, not yet published. The figures for this year have been condensed from data kindly furnished for the use of the Medical Society of St. Louis by the Chief Signal Officer.

ST. LOUIS.

Year.	July	Aug	Sept	Oct	Mean.
1878	83.31	79.17	68.99	57.79	72.06
1877	78.4	76.0	69.8	59.6	70.95
1876	79.2	77.8	66.8	55.7	69.90
1875	78.2	78.1	67.2	54.7	68.35
1874	81.5	78.3	70.2	58.1	72.02
Mean.	79 92	76.8	68.6	55.78	70.66

LOUISVILLE.

Year.	July	Aug	Sept	Oct	Mean.
1878	81.67	78.84	68.73	57.74	71.74
1877	78.9	75.1	69.2	61.3	71.37
1876	79.2	77.6	67.5	58.6	69.47
1875	79 1	73.7	66.4	54.0	68.30
1874	80.7	79.3	72.3	57.5	72.45
Mean.	79.91	79.91	68.8	56.33	70.66

CAIRO.

Year.	July	Aug	Sept	Oct	Mean.
1878	82.84	81.0	69.68	59.87	73.36
1877	9.0	77.5	70.2	61.5	72.05
1876	.9 9	77.5	68.6	58.1	70.52
1875	78.9	73.6	67.5	55.2	68.80
1874	81.3	78.6	71.9	58.2	72.50
Mean.	80.39	77.65	69.58	58.17	71.45

MEMPHIS.

Year.	July	Aug	Sept	Oct	Mean.
1878	83.69	82.04	71.73	61.73	74.80
1877	80.4	78.0	71.0	62.8	73.05
1876	81.3	79.1	70.0	58.5	72.22
1875	82.2	74.9	69.8	57.1	71.00
1874	82.8	82.9	73.2	60.3	74.80
Mean.	82.0	79.39	71.15	60. 9	73.17

VICKSBURG.

Year.	July	Aug	Sept	Oct	Mean.
1878	83.29	82.47	75.10	65.51	76.59
1877	82.4	81.1	74.0	66.0	75.87
1876	82.6	80.2	74.0	68.2	75.00
1875	83.5	78.3	73.4	61.9	74.27
1874	81.1	84.6	76.9	64.7	76.82
Mean.	82.58	81.33	74.68	64.26	75.71

GALVESTON.

Year.	July	Aug	Sept	Oct	Mean.
1878	84.81	8.90	78.61	73.77	80.27
1877	84.4	84.6	80.1	71.5	80.15
1876	8 .0	83.7	79.4	71.6	79.92
1875	85.6	82.9	74.7	70.6	78.45
1874	82.5	84.4	79.5	71.8	79.55
Mean.	84.46	83.90	78.46	71.85	79.67

NEW ORLEANS.

Year.	July	Aug	Sept	Oct	Mean.
1878	84.11	83.55	78.90	70.37	79.23
1877	83.7	83.1	78.4	70.2	78.85
1876	83.4	82.2	79.1	67.6	78.07
1875	81.8	79.3	76 6	67.3	76.25
1874	81.4	83.9	78.9	70.4	78.65
Mean.	82.88	82.41	78.38	69.17	78.21

MOBILE.

Year.	July	Aug	Sept	Oct	Mean.
1878	84.41	82.89	77.97	67.86	78.28
1877	84.8	82.0	77.6	68.1	78.12
1876	83.3	80.1	76.8	64.4	76.15
1875	83.9	78.4	75.1	63.7	75.02
1874	80 8	83.8	77.9	67.4	77.47
Mean	83.44	81.44	77.07	66.09	77.01

CHARLESTON.

Year.	July	Aug	Sept	Oct	Mean.
1878	82.94	80.60	77.22	67.00	76.94
1877	83.6	82.3	77.2	69.1	78.05
1876	83.6	82.4	77.9	62.4	76.57
1875	84.6	79.9	75.1	63.3	75.72
1874	79.3	79.1	75.8	66.7	75.22
Mean.	82.81	80.86	76.64	65.70	76.50

NORFOLK.

Year.	July	Aug	Sept	Oct	Mean.
1878	81.96	78.18	72.26	60.3	73.19
1877	79 6	77.4	68.7	62.0	71.92
1876	81.7	78.2	69 7	56.8	71.60
1875	81.2	76.1	68.7	58.3	71.07
1874	76.9	73.2	70.4	59.8	70.07
Mean.	80.27	76.62	69.95	59.45	71.57

PHILADELPHIA.

Year.	July	Aug	Sept	Oct	Mean.
1878	77.49	78.17	68.18	57.66	69.12
1877	77.8	75.5	66.8	57.4	69.87
1876	78.6	74.8	63.8	50 8	66.87
1875	74.6	72.4	64.1	53.7	66.20
1874	74.7	71.1	68.0	55.0	67.20
Mean.	76.64	73 29	66.18	54.91	67.75

By an inspection of these figures we determine the following observations:

1st. *In every one of the eleven cities, except Charleston and Philadelphia, there has been an unbroken progression of the seasonal means from 1875 to 1878.*

2d. The great seasonal mean for all the cities moves with unbroken regularity from 1875 up to 1878, which was the hottest season of the group of five years, thus:

YEARS.	1874	1875	1876	1877	1878
Great seasonal mean for 11 cities....	74.25	72.13	73.30	74.82	75.05

3d. In eight of the eleven cities, the year 1878 was the hottest of the five years. From 1875 to 1878 there has been a steady increase of temperature over the whole of the United States, south of the latitude of Philadelphia, at least, involving the in-

terior as well as the coast. Assuming, as I do, that yellow fever is the product of high temperature (as one of its main factors), we have in this very unusual heat of 1878, an explanation of the prevalence of the disease in that year on such a terrible scale. It will be seen that the year 1874 was above its mean seasonal temperature in St. Louis, Louisville, Cairo, Memphis, Vicksburg, New Orleans and Mobile. Yellow fever prevailed to some extent in Charleston, New Orleans, and other places, and terribly in Shreveport in that year. In Galveston, Charleston, Norfolk and Philadelphia, the season of 1874 was cooler than its mean.

4th. The great seasonal mean of the five valley cities is 72.33°, that of the three gulf cities, 78.29, and that for the three Atlantic cities, 71.94°. The gulf coast is therefore *habitually* hotter than the river margin up to Cairo, St. Louis, and Louisville, and this again habitually hotter than the Atlantic seaboard by .39 of a degree.

5th. The seasonal mean of 1878 for the valley cities is 73.71°, for the gulf cities, 79.26°, and for the Atlantic cities, 73.08°. In 1878, therefore, the heat was greatest throughout the season on the gulf coast, where yellow fever appeared first, and was next highest in the valley cities, where the disease prevailed extensively, being lowest on the Atlantic, where it did not prevail.

Yellow fever had been epidemic in New Orleans just 30 days before it appeared elsewhere, other points refusing to accept the disease by contagion, and being as yet unable to originate it themselves in consequence of an inadequate potency of the local causative conditions, when it broke out with an almost exact simultaneity at Vicksburg, Memphis, Grenada, Winona, Canton, Delhi, Grand Junction, Hernando, Friar's Point, Bay St. Louis, Ocean Springs, Osyka, Baton Rouge, etc., all of which places are in direct and daily communication with New Orleans by land or water, or both. The great epidemic was established in all the points where it subsequently made such havoc, in the week ending August 17th. It thus lingered, gaining strength in New Orleans, from the earlier weeks of July to the second week in August, and about the 13th of this month, with a variation of but two or three days either way, suddenly flashed out in a great many places separated by hundreds of miles from each other. Had the power of the contagion of the disease been at all marked at this period, or the outbreak acknowledged the influence of this con-

tagion as one of its prime or essential factors, yellow fever would have appeared at Vicksburg, Memphis, Grenada, and at the points named, after the usual incubative period, which, including the time necessary for sickness, death and a report of the case, is not more than eleven days; and the disease should have manifested itself, consequently, about the third week in July, instead of the third week in August. The true explanation of this is to be found in the fact that while the meteorological conditions (the terrene, such as filth, etc., being presupposed) were mature in New Orleans, early in July, they did not become mature farther north and outside of that closely-built city, until four weeks at least had elapsed.

6th. It is further seen, from the figures, that yellow fever appeared and established itself in New Orleans in July, whose temperature was 84.11°, the hottest July of the series of five years.

The fever appeared and became epidemic in Vicksburg, in August, the hottest August since 1874. Temperature of week in which it appeared, 80 9°. The mean temperature of the previous four weeks was 84.9°.

In Memphis, the disease was first seen and began to prevail in August, which was, as in Vicksburg, the hottest August since 1874. The temperature of the third week of this month was also 80.9°, and the mean temperature of the previous four weeks 84.9°. The conditions in Vicksburg and Memphis, as regards temperature, were identical.

In Cairo, according to Dr. Dunning's table, the first cases occurred in August, which month was hotter than any August of the five years preceding.

In Louisville, the first indigenous cases occurred in September, which month shows a temperature higher than any of the same name since 1874, except 1877.

In St. Louis, the first case occurred in August, which month was the hottest August of the five years.

In Mobile, the first cases occurred in August, the hottest month of its name since 1874, but the epidemic prevailed in October, the hottest month of its name for five years, except 1877.

In every instance, therefore, the yellow fever arose, for the localities whose meteorology has been recorded by the United States Signal Service, in the midst of very unusual, and, in three of the seven cities, unprecedented heat, so far as these records go.

SUMMARY.—Yellow fever appeared earliest in a gulf city, whose temperature is properly higher than that of the cities of the river margin, where it next appeared. The disease was not seen on the Atlantic seaboard, where the temperature is naturally lower than either on the gulf coast or banks of the Mississippi.

The disease moreover appeared in New Orleans, in the hottest month of 1878, a month which was also the hottest of the five years on record. In the other six recorded cities, we find that the month in which the disease *appeared*, was in every case but one, (Louisville), hotter than its own mean. The month *of October, in Louisville*, in which nearly all the *local cases occurred, was* hotter than its mean. It must be recollected that, while yellow fever requires a high grade of heat for its generation, and for the development of a general disposition towards a febrile condition of the economy, which enables the effluvia of putrefaction to induce the disease, the *extension of yellow fever* must be held to depend upon the development of this predisposition in persons who have neither experienced the disease nor resided long in the given locality, who are, in other words, unacclimated to yellow fever. This lack of acclimation in concurrence with a high grade of heat and of the other meteorological influences, must I think be taken as the chief cause of the rapid spread and malignant character of the disease in certain places, as in Norfolk in 1857, Memphis in 1878, and Memphis and Vicksburg in 1878.

The relative number of cases or of deaths to a given population, is not therefore an *exact* measure of the intensity of the meteorological and terrene conditions which have given birth to an epidemic, or caused the acceptance of imported contagion, but unmistakably must be held to indicate the degree of receptivity and lack of acclimation of the population which it scourges. At the same time, a continuance of the meteorological and telluric conditions at a high grade, though not necessarily at the highest, is necessary for the maintenance of the receptivity which furnishes new cases. The contagious element as given forth from the sick, is more active, I think, in the *spread* of the disease, in *September and October*, than the meteorological conditions themselves.

Again, it seems evident that some epidemics of yellow fever are far more malignant than others, and that the potency of the

materies contagiosa of the disease is much greater at certain times and certain places. Where thousands are sick in a city, or circumscribed town, not only is the air more densely charged with the contagious matter, but this principle itself would seem to be sublimated in consequence of successive transmission through the bodies of different individuals to an extraordinary degree of power. To this, in estimating the effects of the presence of a number of cases within defined limits, we must not fail to add nervous anxiety, fatigue, and moral perturbations generally, as well as the additional inquination of the atmosphere, under the impossibility of practicing a strict hygiene, due to the presence of very unusual accumulations of filth, conditions, in general, which from the earliest period of human history to the present day, have characterized the prevalence of plagues.

The period of five years embraced in the records now under consideration, affords but a narrow scope for a comparative investigation of the influences inductive of yellow fever. We must nevertheless congratulate ourselves on the possession of these data, since they are all that can be obtained in point of time, and because, as they have been made under a common system, they are not only thoroughly reliable, but also strictly comparable with each other.

Yellow fever did not prevail, in 1878, in four cities of the eleven whose meteorolgy we are considering, viz., Galveston, Charleston, Norfolk and Philadelphia. The causes of this immunity will receive special consideration.

THE CLEAR AND FAIR DAYS.

The earth is heated proportionately to the "fairness" or transparency of the atmosphere. The coolness of night is due to the interception of the sun's rays by the earth itself; a cloudy day is cooler than a bright or fair day, in consequence of the veil of watery spherules interposed between the sun and the soil. In general, the heat of terrestrial surfaces varies as the number of fair days. Throughout the northern hemisphere, the number of fair days in the year, as a mean of long periods of time, is approximately the same, but each month varies notably in this respect. In the United States, October is our fairest month, while February is the cloudiest.

The influence of this peculiar fairness of October upon the soil heat, and consequently upon the atmospheric temperature,

explains the slowness of the diminution of the temperature of the latter part of our summers, which at times is only perceptible in the increasing coolness of the nights. From the figures of twenty-five successive years in Charleston, I find that the mean monthly fairness regulary increases from July to November, thence declining to March, again rising through the ensuing three months, to decline finally, from May to August. The following table from the Charleston records will show this.

A table showing the mean No. of fair days in each month; computed from 25 successive years:

	Jan	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Mean.....	17.9	16.6	18.3	19.6	19.84	19·32	17.4	16.88	19.3	21.7	19 16	17.16

It will be observed that there are two maxima and two minima of fairness in the course of the year. The remarkable fairness of the late summer and early autumn is a phenomenon which occurs over the entire northern hemisphere, and as it exerts a most important influence upon the processes of putrefaction by the sustained temperature and high humidity associated with it, as well as upon the animal functions, it is altogether worthy of our constant and watchful observation. It is by the maintenance of the sun's influence, due to this increase of fairness in August, September and October, that the decline of temperature properly associated with the movement of the sun towards the South, and mostly due to the increasing length of the nights, is prevented. The mean daily temperature, therefore, sinks but slowly and may remain for several weeks together, almost unchanged.

This law, however, expresses only the movement of the mean of a series of years; each season exhibits a progression, in this respect, which is controlled by a variety of influences. In certain years, the fairness regularly increases, the season is prolonged, the soil temperature sinks slowly, and frost falls late. In other years, the movement of the fairness may be quite different. The soil temperature will then decline more rapidly than usual, or even suddenly, and frost, (hoar frost) will be seen early. Thus, in 1854, in Charleston, the number of fair days successively increased during the months of August, September and October, and the temperature consequently continued above its mean.

YEAR 1854.	Aug	Sept.	Oct.
Number of fair days	17	20	24
Temperature of 1854	82.1	78.03	67.32
Mean temperature of twenty-five years	81 8.	76 8°	66.66

While on the contrary, in 1853, the number of fair days did not increase towards the end of the season, and the temperature was lower than the mean, thus:

YEAR 1853.	Aug	Sept	Oct.
Number of fair days	15	17	17
Temperature of 1853	80.4	75 84	65.59
Mean temperature of twenty-five years	81 8.	76.8°	66.66

A comparison of other years, and of other meteorological elements, dependent upon the surface heat, furnish wholly similar results.

While fairness of the days favors the acquisition of heat, fairness of the nights exerts an opposite influence. The heat received by the earth during the day, is more or less completely returned at night, in proportion to the length of the days and nights respectively. Under a clear sky, the temperature of the soil, having steadily risen since sunrise, begins to decline about 3 or 4 o'clock P. M. in consequence of a preponderance of radiation from the earth towards the heavens, over that from the sun.

This decline of temperature continues until the following sunrise, but is not complete unless the night is fair. On a cloudy night the greater part of the earth's return heat is reflected from the clouds, cooling is arrested, or goes on but slowly, and no dew is precipitated. Cloudy nights are comparatively warm at all seasons, and especially oppressive in summer and early autumn. Cloudiness by night, impedes the cooling of earth, and by day diminishes the heating power of the sun. Fairness, by day, permits the sun's rays to reach the earth, and should the following night be cloudy, the heat so acquired is retained, in consequence of the impenetrability of the clouds to the heat rays emitted from the surface of the earth and terrestrial objects. The soil is therefore much warmer upon a cloudy night preceded by a fair day, than on a fair night ensuing upon a fair or cloudy day. For the production of a maximum nocturnal heat, therefore, free passage must be afforded to the sun's rays, but when the earth begins to cool in the afternoon, the sky should be veiled, and the acquired heat thus prevented from

passing off into space. Now this very conjunction of circumstances is of frequent occurrence at the level of the sea, and near the ocean or great rivers, especially in wide expanses of flat territory. It exerts a powerful influence upon the extrication of noxious effluvia from putrescent matter, greatly favors a rise in the humidity, and is usually accompanied by atmospheric stagnancy.

In all these respects, cloudiness of the nights in the hot season is a most important condition of the origin of fevers generally, of malarial fevers in rural districts, and of yellow fever in cities.

"Fairness of the days," and "fairness of nights," therefore, are phenomena of diametrically opposite significance in a meteorological point of view, and should be separately recorded as such, in all observations designed for application to epidemiological research. Unfortunately this fact, if appreciated, has not thus far been acted upon.

It is obvious, from its direct influences upon the temperature of the earth's surface, that fairness of the days is an indispensable agent of great power upon decomposition, in so far as this is promoted by heat. Let us now inquire from the records of Charleston, whether the fair days are also an indispensable agent in the orgination of yellow fever.

I accordingly present the following incremental table of the fair days for all the years.

Table K, showing the increments of the fair days for thirty-eight years, and for the months of August, September and October conjointly.

Years.	No. of Days.	Hygienic Annotation.	Years.	No. of Days.	Hygienic Annotation.
1836	72	(Cholera).	1857	59	.....
1856	69	Yellow Fever.	1867	58	.....
1838	69	Yellow Fever.	1875	57.71	.....
1840	67	Yellow Fever.	1858	57	.....
1837	67	Yellow Fever.	1851	56	.....
18.9	66	Yellow Fever.	1846	56	.....
1877	65.28	.....	1868	55	.....
1866	65	.....	1874	54.14	.....
1835	64	.....	1843	54	.....
1834	63	.....	1841	54	.....
1844	63	.....	1849	53	.....
1850	62	.....	1845	53	.....
1878	61.27	.....	1852	53	.....
1869	61	.....	1847	51	Healthy.
1854	61	.....	1853	49	Healthy.
1876	60.74	.....	1842	49	Healthy.
1839	61	.....	1848	43	Healthy.
1855	60	.....	1852	42	Healthy.
1835	60	.....			

The maxima coincide with yellow fever years, and the minima with healthy years. Cholera stands highest; we shall observe the extreme figures which this year affects, but it will not be counted with the years of "greatest epidemicity," as this expression relates exclusively to yellow fever.

I now append the complemental table of the nosological groups.

Table L, showing the progression of the means for table K. (The cholera season, 1836, is excluded):

Greatest Epidemic Years.	Least Epidemic and Sporadic Years.	Healthy Years.
Mean 62.3	Mean 59.72	Mean 56.17

The progression is regularly incremental, and confirms the indications of table K. *The fair days, therefore, are a primary agent in the production of yellow fever.*

To show that there is no possibility of doubtful significance, or of accidental arrangement of the figures, I shall present, as in the case of the "temperature," the two following pairs of tables, of many similar ones which I have in my possession, based upon varying combinations of the figures with exactly similar results in every case. In the tables that follow, August and September are considered conjointly, and so likewise are September and October. The pair already presented group the three months together.

Table M, showing the increments of the fair days for the months of August and September, conjointly; calculated for thirty-seven years:

Years.	No. of Days	Hygienic Annotation.	Years.	No. of Days	Hygienic Annotation.
1857	49	Yellow Fever.	1833	37	.....
(1836)	(48)	(Cholera.)	1838	37	.....
1856	46	Yellow Fever.	1845	37	.....
1877	44.28	.....	1849	36	.....
1838	41	.....	1834	36	.....
1840	43	.....	1850	34	.....
1876	42.14	.....	1867	33	.....
1839	42	.....	1851	33	.....
1835	41	.....	1858	32	.....
1857	41	.....	1843	32	.....
1894	41	.....	1842	32	.....
1844	40	.....	1848	31	.....
1875	40	.....	1872	30	.....
1869	40	.....	1846	30	.....
1895	39	.....	1874	29	.....
1878	38 42	.....	1841	28	.....
1875	38.14	.....	1832	27	Healthy.
1874	37	.....	1847	24	Healthy.
1848	37	.....			

THE RELATIONS OF YELLOW FEVER TO ST. LOUIS.

*CASES, EITHER OF YELLOW FEVER OR CLOSELY SIMULATING THAT DISEASE, ARISING IN ST. LOUIS AND ITS SUBURBS, WITHOUT KNOWN CONTACT WITH OTHER CASES, OR WHERE NO SUCH CONTACT EXISTED.

DR. CARL SPINZIG, 1300 South Fifth street, saw a young man æt. 21 or 22 years, on the 21st of August, 1878, on Jackson street, between Miller and Berry streets. This young man had been born in St. Louis, and had never been away from the city, as far as could be learned, and positively not during the year 1878. He had not been in contact with any steamer coming from the South, nor with any patient sick of yellow fever, nor with any person coming from the South. These facts were carefully inquired into at the time of the Doctor's first visit, and much pains was taken to verify them, and the statements above made were such as to show their correctness, especially in the absence of any incentives to a false statement.

Dr. Spinzig's first visit was made on the second or third day of the attack, judging from the symptoms. The attack was ushered in with fever, but an antecedent chill was not mentioned. The stomach was very irritable, and the epigastrium very tender to pressure. He was vomiting black vomit occasionally, of which the doctor saw about half a pint in a basin. The tongue was dry, crusted and dark; intelligence disturbed, and facies altered. The skin was markedly yellow,—even more so than in a patient from New Orleans whom the Doctor saw in 1873. The eyes were much colored; the bowels were constipated.

Dr. Spinzig saw the youth again the next day. He was somewhat better. On the 23d the improvement was still more pronounced, and convalescence was soon established. The Doctor saw him but twice, but heard from him after his second visit.

This young man worked in a varnish factory, and slept on the ground floor of the house where he lived, where malarial fevers were very prevalent, the locality being noted as unhealthy all the year round. A great part of the area around the house is well known to have been filled, having been originally of low level.

*Extracted from "A Report of the Committee of the Saint Louis Medical Society, on the Relations of the Yellow Fever Epidemic of 1878 to Saint Louis."

DR. E. A. VOGT, corner Jefferson and Benton avenues, reports a suspicious case in the person of a peddler of small fruits, named Rice, æt. 43. The patient was of German birth, but had been living in St. Louis for the past ten or fifteen years. His residence when sick was on Lindell avenue, near Lindell Park. All history of contact of the patient with persons sick of yellow fever, or of his presence in infected places, was denied by his wife. He was a vender of small fruits, and was not an orange or banana dealer, and was not known to have had any communication whatever with vessels, or freight of this kind coming from the South. The patient's residence was a frame house, and the premises were quite clean. There are some drains in the neighborhood, and Dr. Vogt had seen cases of typho-malarial fever of very bad type last season in this neighborhood. These he attributes to the emanations from the open, unfinished, mouth of the Rocky Branch sewer and a draining ditch between Grand avenue and Lindell avenue, about 300 steps from the house of the patient, Rice. Dr. Vogt has frequently perceived a bad smell arising from the Rocky Branch sewer mouth, distant from Rice's dwelling about 1,000 steps.

Rice was habitually a hard drinker; he was a short, strong, apparently quite healthy man, though of somewhat flabby fiber; he had never been seriously sick before, for at least a long period. Dr. Vogt first saw him on September 13th, 1878, at 7 A. M. His temperature was then 105°. He had been indisposed for some forty-eight hours before, and had had a chill on the 12th. Pulse full and very compressible, 100. He had been vomiting the evening before and through the night, but his wife took no notice of this, particularly, as she imagined him to have been drinking more than usual. Towards morning he became speechless. When Dr. Vogt saw him, his intelligence was perfect, but the prostration was extreme. The sphincters were relaxed, and during the visit he vomited dark lumps of coagulated blood, mixed with bile. His wife stated that he had vomited the same kind of matter during the night. The facies expressed great anxiety, and there was fearful moaning and jactitation. The conjunctivæ were very yellow, and somewhat injected. The skin in general, and the breast especially, were very yellow; indeed, more than is commonly seen in ordinary jaundice. Black matter, soiling the bedclothes, was passed by the bowels, of an intolerable odor. He died on the same day that Dr. Vogt saw him,

at 10 or 11 o'clock P. M. Dr. Vogt caused all the bedding to be burned. Rice's wife was sick for five or six days after her husband died, being taken a day or two after his death.

Dr. Vogt has seen many cases of malarial fever and three cases of congestive chill this summer. In the neighborhood of Rice's dwelling the cases were very severe, especially in the neighborhood of the Rocky Branch sewer. He has no deaths to report from these cases.

DR. G. W. HALL, 3609 North Ninth street, states that he saw this case at Dr. Vogt's request on the morning of the day the patient died. Rice had been sick three or four days, and had been seen by Dr. Vogt only a few times. When first seen by Dr. Hall, the patient was generally yellow, very much so; indeed, more so than Dr. Hall had ever seen in a case of bilious fever. The eyes also were yellow and the conjunctivæ injected. The man had been vomiting, but was not doing so at 9 A. M., the time of Dr. Hall's visit. During the night he had vomited matter which his wife described as being dark. Had had some dark offensive stools, with which the bed linen was stained; respiration was slow and irregular; the pulse feeble and slow; he was perfectly insensible, and there was complete suppression of urine; had been unconscious ever since 4 P. M. the preceding day. The patient was addicted to liquor, but was not a regular sot, indulging in excess only occasionally. His wife had prevailed on him to allow her to keep his drink for him in the house, and she gave him a certain quantity when he insisted upon it, so that he was never intoxicated upon the streets. She knew that he had taken nothing for three or four days before his attack. The patient, Rice, died the evening of the day (Sept. 13th) that Dr. Hall saw him, completely comatose.

It was not possible to trace this case to any other one already sick of yellow fever, but the patient's wife, who soon became convinced that he had yellow fever, stated that her husband had been among persons, not long before, who had recently arrived from the South, quite a number of whom, refugees from Southern cities where yellow fever was prevalent, and persons of a low class, living in the neighborhood of Union Market. She knew her husband had been a good deal with them. It could

not be learned that Rice had been on board of any steamer from the South. Dr. Hall is sure the case was one of yellow fever, and was promptly convinced of this when he made his visit, although barely expecting the case to be of that character until he saw it. After the visit, both Dr. Vogt and himself concurred in the opinion that it was a case of yellow fever, and accordingly notified the Board of Health.

The neighborhood is very malarial, and is not far from the opening of Rocky Branch sewer, which has been referred to by Dr. Vogt as very offensive. Two or three days before this man died a woman died in the same neighborhood with symptoms similar to his, who had also been about these men who had come up the river from the South, and were living in the neighborhood of Union Market.

Dr. Hall states that according to his observation, the malarial fevers of last summer were unusually severe and difficult to manage; he observed more discoloration of an icteroid character than ever before. He found that he could seldom dispense with calomel, and was obliged to administer quinine in unusually large doses.

THE FEVER IN CARONDELET.

The steamer John D. Porter is a stern-wheeler, employed as a tugboat in conveying barges laden with coal, iron ore and coke between Pittsburg, the landings on the Ohio and the Mississippi, from St. Louis to New Orleans. She is often at Carondelet (southern extension of the City of St. Louis) in the service of the iron works on the river margin at that point. She is usually at Carondelet this time of the year (April), once in ten days or two weeks.

The disastrous trip of this steamer late in July and in the early part of August up the Mississippi will be long remembered. On that trip she stopped at Vicksburg, en route for Pittsburg, on Wednesday, July 24th, and put off two men sick with yellow fever. Both of these men died in a day or two at the Marine Hospital at that city. After the Porter left a fireman, named Wilson, died of yellow fever on board of her at 3 A. M. on Thursday morning, July 25th, and the Porter returned to Vicksburg to bury him. She was allowed to put off her dead man, and also a man sick with the fever, and was then ordered away, the Captain having promised to burn the bedding on which

Wilson had lain, and to disinfect his boat. Receiving information of these facts, the Board of Health of Memphis, where there was no yellow fever as yet, took effectual means to prevent the steamer from landing, which, apparently, she did not attempt to do. Continuing her way up the river in quest of her barges, the Porter arrived at Cairo, where she was reluctantly allowed to land on July 21st, and to remain long enough to have some work done on her boilers. She then left for Carondelet, arriving there on the 3d of August, 1878, at 4 or five o'clock P. M. She remained over night, and from six to ten of her crew, mostly colored, were either discharged or quit without leave, going up a block or two from the point at which she lay, viz., at the foot of Market or Grundy streets, and entering a tavern or saloon on the east side of Main street between Fillmore and Ellwood streets. This saloon was kept by the Vincent family, two of whom afterwards died at their home near by, as will be detailed. Several of these roustabouts are also known to have entered the next store south of Vincent's saloon, kept by a man named Schweig where there was also a bar. Mohring, who subsequently died, was frequently in this bar-room, and was seen there in company with these discharged men by Mr. J. Seeboth, who keeps an eating house and saloon, a little south of opposite, in a house where Mohring was subsequently found dead of yellow fever. The steamer Porter does not seem to have brought any barges with her, but came directly up to Carondelet from the lower river to get her barges which had been left at Carondelet to be unloaded some weeks before, and while here was obliged to ship one or two men. A letter from the captain on this point is subjoined:

OFFICE CUMBERLAND TOWBOAT CO.
STEAMERS JOHN PORTER, IKE HAMMITT AND BARGES,
PITTSBURG, Sept. 13th, 1878.

C. * *

DEAR SIR:—Yours of 13th to hand; contents noted; would have replied sooner but have not been able to come to the city. Below find replies to your questions: I shipped an engineer, Dan'l O'Neal, at St. Louis; also one deckhand. I suppose there was about fifteen of the crew continued up the Ohio from New Orleans; I shipped some new men at Cairo. The engineer from St. Louis, Dan'l O'Neal, died at Gallipolis, O. The deck hand, from St. Louis, I believe, left the boat at Louisville. I have since understood O'Neal had been running to New Orleans pre-

vious to shipping on the Porter. We don't think we contracted any additional fever at St. Louis. Trusting you may derive the information you seek, I remain, yours, etc.,

W. C. MAHAN.

The men who quit the Porter, after carousing awhile in the saloons on Main street, took the horse-cars and went up to St. Louis. None of them are known to have remained behind, and it is, perhaps, absolutely certain that none remained behind, and sickened of yellow fever. There is no trace whatsoever to be discovered after most diligent inquiry of any sequence of cases between those on the Porter and those occurring about the middle of September, at Carondelet, within one or two hundred yards of the spot where the Porter lay. Some persons are known to have gone on board the Porter while she was at the landing, but no clothes for washing or other material was taken out of her, as far as could be ascertained, the steamer lying at the bank, scarcely one hundred yards from Main street, a very short time, not less than six hours nor more than twenty-four.

After this we lose sight of the Porter for a week or so, until, having stopped at Cairo and taken on some hands, she landed at Louisville, August 12th, with several cases of yellow fever on board. On August 15th she passed Cincinnati with several cases on board, and was not allowed to land. The Health Officer boarded her below Lawrenceburg, and found her in a disabled condition. She was not allowed to land at that city, two physicians being detailed to go with her to Pittsburg, her destination.

On August 19th, the Porter lay at her moorings, one mile below Gallipolis, O., until the Health Officer compelled her to drop down below the bend. At that date there were ten cases on board, and three deaths within a few days. The further history of this steamer does not concern the subject matter of the committee's inquiries.

It will be seen that the steamer arrived directly from the South, having had deaths by yellow fever on board within a week, although when visited by the police at Carondelet no cases of fever could be detected. That she was thoroughly infectious is proved by the death of O'Neal, the engineer, and by the outbreak of yellow fever in the Ohio river, so that it must be assumed that, while at St. Louis, the boat and her crew were without doubt most intensely infected. On its being announced

by police telegraph that the Porter had landed at the foot of Market or Grundy streets in Carondelet, at the Health Commissioner's Office, Drs. Jameson and Homan were sent down at once, but on arriving saw her in the stream on her way. She was known to be thoroughly infected, and would not have been allowed to remain or come higher up the river, had she attempted to do so. These are all the facts that can be gleaned with reference to the visit of the Porter to Carondelet.

On the 17th of September, 1878, the first death of a series of eleven or twelve, most or all of which were indisputably yellow fever, occurred. The facts with reference to them have been obtained from the books of the Health Office, from statements made by Dr. L. S. Reber, who was acting during the summer of 1878 as Inspecting Officer for Carondelet, under the Health Department, from several of the local practitioners, and from many persons living in Carondelet, acquainted with the deceased, and by personal visits of the committee to the houses in which the deaths occurred, where persons were found who were cognizant of the dates, symptoms, etc., of each case. The committee has been at much pains to obtain reliable information with regard to this most interesting group of cases, and what is detailed below may be regarded, as far as facts are concerned, as entirely correct. The cases are arranged in the order of death; they all died.

CASE I.—Mrs. Mary Enwright, married, age 35, native of Ireland; residing near the corner of Second and Grundy streets. Diagnosis, "Hepatitis;" attending physician, Dr. Perry E. Noel. Died September 17th. She was sick eight days. Black vomit was seen to run out of her mouth. She was buried very suddenly.

CASE II.—Mrs. Tennessee Constant, æt. 52, born in the United States; residing on the corner of Main and Grundy streets; attended by Drs. H. M. Starkloff and E. E. Webster. Diagnosis, "Febris gastrica perniciosa." Died September 22d, 1878.

Mrs. Constant was a very large woman. Dr. N. L. Hornsby informs us that Dr. Webster, who attended her towards her death, affirms that she had black vomit some time before death. Capt O'Neil, of the police, states that when she was placed in the coffin and her arms were pressed down in putting on the lid, the black vomit ran out of her mouth. This statement is confirmed by the

undertaker (Herye) who buried her. She was taken with a chill, and died after a sickness of four days and a half, taking to her bed on Tuesday, night, September 17th, and dying on Sunday morning following.

CASE III.—Lawrence Quinn, single, æt. 23, born in the United States; place of death, between Third and Fourth, on Kansas street. Attended by Dr. N. L. Hornsby. Died October 9th.

DR. HORNSBY contributes the following notes of this case: I was called about 8 o'clock on the evening of October 7th, 1878, to see Larry Quinn. Upon investigation I ascertained the following history of the case: His age about 22 years, a common laborer; had been occupied for several months past in the country, about five miles from the city; had been complaining occasionally through the summer, but with no serious sickness; had had chills a year or two previous. On the evening of the 5th October had a decided chill, which passed off through the night, leaving him tolerably well the next day. It being Sunday, he went grape-gathering in the woods. In the evening, about twenty-four hours from the last, he had a second chill, with intense pain in the head, passing into partial coma, in which condition he was on the night of the 7th, when I first saw him. I diagnosed the case as congestion of the brain from malarial poisoning, and treated it accordingly by topical bleeding, epispastics to the extremities, small and repeated doses of calomel, etc. I omitted to mention that he suffered from the time I saw him, with frequent attempts at vomiting, which towards the close became dark, resembling the coffee-ground ejections of yellow fever. He lived only about twenty-four or thirty-six hours after I first saw him. The stupor passed into complete coma, in which condition he died. After death the yellowness of the skin was striking, but not more so than is often observed in grave cases of malarial poisoning complicated with biliary engorgement.

N. L. HORNSBY, M. D.

From the police we learn that Quinn undoubtedly had black vomit; that he had been working at the Nazareth Convent, about three-fourths of a mile just west of the Quarantine grounds, when the wards were at the time full of yellow fever patients.

It is not likely that Quinn went in person to Quarantine for any purpose, but one of the nurses who had left Quarantine was also employed at the same Convent while Quinn was working there. Some of the people from Quarantine also went to mass at this Convent until the practice was suppressed.

Upon inquiry on the spot, and from Lawrence Quinn's mother, we learn that he had been much exposed to cold, being constantly wet for nearly ten days, during a period of a week or so before his attack. The house at which Quinn died *was not the one where the disease was contracted.* He had been living with his mother, in the southernmost of four small houses in a block or row opposite Ninth street, on Kansas, on a declivity in a vacant lot. He lived here some months immediately previous to being taken sick, and when attacked, on Sunday, the 7th of October, returning by way of the thoroughfares of the town, was so ill that he could get no further on his road directly out to his house than the house noted as his "place of death." A description of the premises in which Quinn was living when he was taken sick will be given further on.

CASE IV—Mrs. Mary Wilson, æt. 56, born in the United States, widow; residence on Third street, between Ellwood and Fillmore streets; no physician attending. Seen after death by the Coroner, Dr. H. Auler. Cause of death recorded as "Congestive fever." Died October 14th. From inquiries at the house in which she died, we learn that Mrs. Wilson was taken sick with a chill on October 10th, and that she died after a febrile attack, lasting but four days.

CASE V.—Mrs. Knight, mother to Mrs. T. Constant, residing in the same house, viz., at the corner of Main and Grundy streets; æt. 76; born in Virginia; attended by Dr. P. E. Noel; diagnosis, "old age and bilious fever;" died October 17, 1878. Her case is stated to have been a prolonged one.

CASE VI.—Henry Mohring, æt. 50; born in Germany; residence on Main, between Ellwood and Fillmore streets; not attended by any physician; he was seen, after his death, by the Coroner, Dr. H. Auler; cause of death recorded, "bilious remittent fever;" died October 18, 1878. M. J. Seeboth, now residing in the house in which Mohring died, states that Mohring indisputably had yellow fever. His symptoms were great prostra-

tion, with uncontrollable nausea and vomiting; pain in the back and head; flushed face; duration of his attack being just four days; that during the latter days of his sickness he vomited black vomit profusely. His room was on the second floor, looking south, over Fillmore street, over a vacant space not more than one hundred yards from the house in which Mrs. Constant and her mother, Mrs. Knight, had died. Mr. Seeboth, as already stated, affirms that he saw Mohring in the company of the men discharged from the Porter, and also, later in the season, with two men from the South, who had reached St. Louis by steamer, and had come down to Carondelet. Mohring, to his knowledge, had never been in contact with any case of yellow fever.

CASE VII.—Mrs. Philomena Vincent; married; æt. 32; residing on the corner of Second and Fillmore streets; attended by Dr. N. L. Hornsby; diagnosis, "hepatitis and gastritis"; died October 20th; death certificate signed by Dr. Perry E. Noel.

Dr. Hornsby communicates the following with regard to her case:

'I was called early in the morning of Sept. 23d, to see Mrs. Vincent, Jr. She had been complaining slightly of general malaise, but was taken suddenly that morning with feeble pulse, coldness of the extremities, intense nausea and occasional vomiting. The bowels were natural. There was pain in the back, but not intense; there was none in the head. The case was diagnosed as one of malignant malarial poisoning, and treated accordingly with small doses of calomel (gr. ij–iij) and bismuth, every two hours, with a large blister over stomach and bowels, mustard to the extremities, and gr. xv of quinine, with 15 drops of laudanum, every three hours in starch enema. She recovered in forty-eight hours. There was no remarkable jaundice of the skin, nor was there black vomit. This patient, her husband tells me, had not been to see, or in any way connected (either before or after their death) with any of those who were sick in the neighborhood. She was taken sick, about two weeks after, with similar symptoms (her husband tells me), of which she died.

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* Dr. Hornsby admits that he kept no notes of the case, and writes from memory. The above date is obviously erroneous, as the date of death given is transcribed from the register of the Health Office and is certainly correct.

Her mother-in-law died about the same time, from all I could learn, from nervous shock, having been in delicate health for several months from malarial poisoning." This case is the next subjoined.

CASE VIII.—Mrs. Mary Vincent; living in in the same one-story house with her daughter-in-law, Mrs. Philomena Vincent; widow; æt. 68; native of France; attended by Dr. P. E. Noel; diagnosis, congestive fever, typho-malarial; died October 20th. The house adjoins, in the rear, that in which Mrs. Mary Wilson died, on October 14th. Mrs. Vincent, Jr., and her mother-in-law, kept the saloon at the corner of Ellwood and Main streets, their residence being just one block west of the saloon, with which they were in frequent communication. It will be recollected that the crew of the Porter entered the saloon when they left the steamer, and remained in it, and in the house adjoining on the south, some time before leaving for the city. This was, however, no less than forty-seven days before Mrs. Vincent's death.

CASE IX.—George W. Pilcher; æt. 12; born at Carondelet; residence, Second street, between Market and Grundy streets; seen by Drs. McElhiney and L. S. Reber; sent to Quarantine, and died October 22d.

DR. MCELHINEY, 804 Brooklyn street, St. Louis, makes the following statements with regard to this case:

Dr. McElhiney was appointed, by the Health Commissioner, General Inspector of cases of suspicious fever, early in August, 1878, for the city of St. Louis. When a report was made to him of the existence of such a case, his duties required him to visit the patient, and to decide upon the propriety of a removal to Quarantine, if the case was, in his opinion, one of yellow fever.

About the middle of November, 1878, notice was given him by Dr. Reber, of Carondelet, Local Inspector of the Health Office, that there was a case in Carondelet supposed by him to be yellow fever. Dr. McElhiney at once went down to Carondelet, and found the patient to be a boy, 12 years old, named G. W. Pilcher. He had been born in St. Louis, and was in good health before his attack, not having been known to have intermittent or other form of malarial fever. The house he was in

was of one story, with two rooms, built back in a yard. Young Pilcher was in the front room of the house, at least sixty feet from the street. The boy had been taken with a chill, some two or three days before, and had black vomit when Dr. McElhiney saw him. There was flushing and relaxation of the face; great capillary torpor; injection of the conjunctivæ, and total suppression of urine; some yellowness of the body. He was semi-comatose, greatly oppressed, not heeding anything going on around him. He was at once sent down to Quarantine by ambulance, and Dr. McElhiney went with him. The boy died the next day. The case was unmistakably one of yellow fever.

CASE X.—Amelia Pilcher, æt 6, residence, 2d between Market and Grundy streets; attended by Dr. Otto Fick. Diagnosis, "typho-malarial fever." Died Oct. 21. With regard to this case, Dr. McElhiney states that in the same room in which this boy G. W. Pilcher lay dying, he saw this girl laid out for burial; she had died that morning. She was said by the mother to have had the same symptoms, including black vomit, present in the boy, her brother. On drawing down the covering from the child's body, and making pressure upon the region of the stomach, a black fluid was seen to run down the cheeks from the corners of the mouth, quite freely. Her skin was very yellow. Dr. McElhiney says he had not a particle of doubt but that the case had been one of yellow fever, and so stated to those around at the time. The girl had been born in St. Louis, and had never been out of the city. These two cases were the last which Dr. McElhiney saw in 1878. He inquired carefully from the mother and neighbors whether at any time during the season there had been any kind of communication between these two children, and any case of yellow fever, or known source of infection; but was told that nothing of the sort had happened, so far as they knew.

CASE XI.—Mary Enwright, æt. 15 years, native of England; place of death, on Ellwood street, between Third and Fourth streets. Attended by Dr. P. E. Noel. Diagnosis, "typho-malarial fever." Died October 27th. By inquiry on the spot, we learn that the patient was not residing in Carondelet, but came down to see her mother, ill at the time, about September 15th, and with the rest of the family moved away from the house in which

her mother died to a residence a square and a half up the hillside to the north-west, where she continued to reside until taken sick. This house is within a couple of hundred feet of that in which Mrs. Wilson died on Oct. 14th.

A young man from the South, is said to have died on Sept. 4th, in a dwelling back of the "Widow's Home."

Not one of the eleven cases above noted, had had any *known* contact with a case of yellow fever, except with each other, and none had been to the South, being residents of Carondelet for years past.

Four of the cases occurred directly west of the point at which the Porter landed, and between the same two streets, viz., Grundy and Market Streets, between which the steamer was moored. Two of these cases, viz., Mrs. Constant and mother, lived on the corner of Grundy and Main streets, only one square from the point at which the steamer had been moored. The other three, viz., Mrs. Pilcher's two children and Mrs. Enwright, resided a hundred yards further west on Second street, between Market and Grundy streets, across an open lot. The house in which Henry Mohring was found dead by the Coroner, was two squares north-west of the point at which the Porter lay.

Mrs. Vincent and mother, and Mrs. Wilson, seen dead by the Inspector, and reported by the Coroner, resided in the square next adjoining, three squares to the northwest of the landing. Miss Enwright died in a house on Ellwood street, a short distance from the residence of Mrs. Wilson.

All these cases, except that of Larry Quinn, consequently, occurred within an area not exceeding three blocks distance from the river front, in any direction. This can be seen on the accompanying chart of that part of Carondelet where the Porter touched, and these cases occurred.

After these events, inasmuch as the visit of the steamer Porter to Carondelet was supposed to have been too long, before the first of the cases, to be considered the source of any of them; and other known opportunity of contact between these cases and boats, or refugees, not being demonstrable, much difference of opinion was expressed as to their real nature. A meeting was at length called of the physicians of Carondelet, and held at the office of Dr. N. L. Hornsby, Oct. 26th, 1878, "for the purpose of ascer-

taining and investigating the causes, diseases and conditions which led to a certain mortality in our midst, and purported to be yellow fever." Dr. Purkett was elected Chairman; Dr. Outten Secretary. A committee was appointed to make an investigation and report to the meeting, consisting of Drs. N. L. Hornsby, W. B. Outten and S. C. Martin.

The following is a copy of the report of the committee, to which four additional names are attached:

GENTLEMEN:—Your committee to whom was referred the investigation of the disease prevailing in Carondelet at this time, and supposed by some to be yellow fever, would beg leave to submit the following report:

Having studied the cases in all their phases, they do not think they can properly be characterized as yellow fever, for the following reasons: It cannot, so far as we, each individually, have been able to learn, be traced to contagium as a factor in a single instance; whereas, yellow fever, as its history will show, invariably proceeds from contagion. Although the steamer Porter stopped at Carondelet, and some of its passengers or crew came ashore, and hence, by some it has been supposed to be the source of the disease. Your committee, *however*, deem that impossible, as that occurred in July, whereas, the malignant form of disease to which reference has been made, did not appear amongst us 'till September—too long a period for incubation to have existed. Although the symptoms of the disease, as headache, pain in the back and gastric irritability, are the symptoms of yellow fever, still they are invariably recognized as the symptoms also arising from malarial poisoning. Even the jaundiced color, considered pathognomonic of yellow fever, and which, from having been observed in one or two of the cases of the prevailing disease, has seemed to justify their being classed as such, is often found to occur in the most pernicious forms of malarial poisoning. Again, the season of the year in which the disease is prevailing, warrants our concluding that it is not yellow fever; as it conflicts with the history of all epidemics of the disease, that it should continue after the occurrence of frost.

In none of the cases of which your committee are cognizant, either by observation or inquiry, could they learn that contagion was a factor. They occurred in the Northern, Southern and

Western portions of the city, isolated from each other, and from any possible source of contagion, except the steamer above alluded to. This fact alone is sufficient to preclude all idea of yellow fever, as contagion is universally recognized as the source of the latter disease, and which the successful quarantining of some cities within the infected district has fully verified.

All the cases brought to the notice of your committee are explicable, in all their phases, upon the theory of malarial poisoning; and they deem it unphilosophical to introduce extraneous causes to explain phenomena, which can be readily explained by causes known to exist. For all of which reasons your committee are decidedly of the opinion, that the cases of disease referred to them for investigation, have arisen from malarial poisoning, and of a very pernicious type, and are entirely independent of the contagium of yellow fever.

N. L. HORNSBY, M. D.
W. B. OUTTEN, M. D.
S. C. MARTIN, M. D.
JOS. MIDDLETON, M. D.
E. E. WEBSTER, M. D.
A. MONTGOMERY, M. D.
C. PURKETT, M. D.

With regard to the statements made in this report, we beg leave to say, that after due reflection and according to the most reliable information we have been able to obtain, we feel ourselves obliged to class six of the eleven cases of fever above noticed or detailed, as undoubtedly yellow fever, viz.: Mrs. Mary Enwright, Mrs. Constant, Lawrence Quinn, Henry Mohring, G. W. Pilcher, Amelia Pilcher. The other cases were unusually violent and presented a malignancy altogether unusual in bilious fever. It must be recollected that some of the cases occurred in the same houses in which one of the cases had previously died, and others were developed in neighboring houses, separated from each other only by vacant lots. The entire group of cases evidently constituted a local outbreak, which only the lateness of the season prevented from extending further, and it is but rational to conclude that all the cases were of one common malignant type, and, consequently, that they were all more or less pronounced cases of yellow fever. In many of the cases of yellow fever already detailed as occurring in St. Louis, and even in the midst of epidemics at the South, black vomit has been wanting, in fact,

only a moderate proportion of fatal cases have this symptom; nevertheless there is no hesitancy among practitioners under these circumstances in classing such cases as yellow fever. This congestive type is thoroughly well known, and is an exceedingly fatal one—the patient often dying comatose, without vomiting or purging and even without marked febrile excitement—in two or three days. The committee, however, must limit themselves to general expressions of opinion, inasmuch as neither of its members saw any of these cases, and their judgment depends entirely upon a consideration of the symptomatology, as gathered from sources deemed reliable.

The fact that contagion cannot be distinctly traced from the steamer Porter, or from cases occurring in Carondelet, originally infected in the South, does not warrant the conclusion of the committee of Carondelet physicians, that these cases were not yellow fever. We do not admit that yellow fever is generated by contagion alone, but hold that, although without doubt contagious when developed, especially in the presence of a certain receptivity, which seems to be wrought by miasmatic influence in conjunction with heat and humidity, yellow fever is originally begotten by local causes, viz.: terrene and meteorological conditions, and that like all malignant forms of disease, it becomes contagious when once begotten, and precipitable by virtue of such contagiousness upon individuals and communities already subjected to conditions similar to those amid which it has already made its appearance, and we shall show further on, that conditions did exist in the area where these cases appeared, quite capable of originating yellow fever, independently of the steamer Porter, or any other source of infection or precipitation. Indeed the committee is strongly induced to agree with the signers of the report in question, to the effect that the visit of the Porter was too long before the appearance of the first case, viz., about forty-one days, to sanction any assumption that these cases were due to the Porter's visit directly or remotely. We have given all the facts with regard to the discharge of the crew and their communication with some of those who afterwards died, but do not nevertheless intend to impute these deaths to such contact. This would be straining the point of contagion quite too much, in the presence of conditions of the most unhygienic character, exactly competent to produce yellow fever, already existing in the part of the town affected.

The Carondelet committee state that the late appearance of the disease warrants their conclusion that it was not yellow fever, "as it conflicts with the history of all epidemics of the disease that it should continue after frost." With this statement we are obliged to take issue, and we doubt very much if the framers of this paper would have ventured to express themselves in such terms in December, 1878, or in January, 1879, for it is well known that the disease lingered in the South long after frost, and even after two or three heavy frosts, numerous deaths having occurred in persons who had returned to their business after frost, thinking that all was safe. Yellow fever is generated by *heat*, humidity, and the putrescent miasms of animal origin, in cities almost exclusively, but in exceptional instances, in the country also. When *once generated*, in the hotter part of the season, it can extend by its contagiousness late into the cooler weather, just as it may extend by transportation far to the North into cooler regions. And the first of these cases did really appear about the middle of September, when the heat was very high, the temperature for the week ending Sept. 7th, being 77.4, nearly what it was in the middle of August, the entire month of August having been unusually hot, its mean temperature being 79.17, or three degrees higher than its mean for the past five years, and higher than any of the previous four years.

With regard to cases of fever occurring as the report states, in the northern, southern, and western portions of Carondelet, we do not propose to say anything, for no details of any cases so occurring, with symptoms analogous to those presented by the cases detailed, have come to our knowledge. We propose to deal entirely with these eleven cases, all of which occurred within a few hundred yards of each other, and without exception, in the area fronting on Main street, between Ellwood and Lafayette streets, and which is backed by the hills, up to which these and the five intervening streets lead. Nor were these cases isolated from each other, but occurred on a gentle declivity in the bottom of a natural amphitheater enclosed by the rising ground behind, so that all foul drainage water, and, at night, all surface air, laden with various miasms, and with the proper infection of the yellow fever cases already existing on the hillside, necessarily flowed down upon those below, without even the intervention of buildings, for the area is mostly one of wide vacant lots.

So that, while admitting that these cases can scarcely be attributed to the Porter, we must again express our conviction that this consideration by no means invalidates our conclusions that they were yellow fever, and beg leave to say that contagion is not at all universally recognized in the South as the exclusive source of yellow fever, but only so by the extreme contagionists and specificists, a category to which your committee is happy to say, it does not belong. And in the same connection, we might remark that we do not know that quarantining of any cities in the infected districts of the South, in 1878, in any degree verified the assertion that contagion is the sole factor in the generation of yellow fever, for the fever invaded Mobile in September, one of the ports probably to which reference is made, and Galveston owes her immunity from the disease, not by any means to an assumed rigid quarantine, so much as to a happy combination of her meteorological conditions, notably the presence of a succession of thunderstorms all through July and August, and especially to a greater number of thunderstorms in August, 1878, than in the same month for any of the four preceding years. In Memphis, there *was but a single thunderstorm in the summer of 1878*, viz., in July, August, September, or October, and this *occurred in the second week in July*. The fever appeared on the 12th of August, after several weeks of great heat and atmospheric stagnancy.

We do not deny that these cases may have been based upon malarial poisoning, for we hold that yellow fever often shows itself as a malignant modification of commoner forms of fever, and this modification when occurring, viz., when yellow fever appears in any given locality, is due to contact either with the effluvia from yellow fever patients, or with fomites, or to the absorption of the putrid emanations of decomposing animal matter. That either the effluvia from the sick, or emanations of putrefaction, will at once cause the transformation of ordinary malarial fever into yellow fever, admits, in our judgment, of no sort of doubt. This proclivity to febrile disease, however, so readily begotten in the Mississippi valley, or the Gulf coast, and on the alluvial sites of the Southern Atlantic cities, needs only the touch of putrefying *animal matter*, to transform a bilious remittent into that continued form of bilious fever, now malignant (its old name), which we call yellow fever.

Having premised this much, we proceed to give a description

of the area in which this outbreak occurred, fortunately limited, by lack of material and by the lateness of the season.

Appended is a diagram of the area in which ten of these cases ran their course. (See diagram.)

Standing in Carondelet, at the intersection of Grundy and Main streets, and looking north, we perceive that the surface rises rapidly, until within a distance of two or three squares only, an elevation of some fifty feet is attained. Towards the south there is likewise a constant, though more gentle ascent, and towards the west a rapid rise of the surface up to Fourth street, which lies on the crest of the river hills. Main, Second, Third and Fourth streets, lie north and south and are parallel to each other and to the river front. Ellwood, Fillmore, Grundy, Market and Illinois streets, are parallel to each other, running east and west, though not open at all places, and are nearly but not quite at right angles with the leading streets.

If we now walk around to the intersection of Grundy and Second streets, we see that we stand at a medium point of elevation in the middle of an amphitheater, with the river in front of us, the hills to our back, and rising ground to the north and south, and in the course or bed of one of the leads of the natural drainage of this amphitheater. One square further north, viz., at the corner of Fillmore and Second streets, we also find a hillside drainage lead, by which the washings from the vacant and occupied lots on Fillmore street are conveyed into the river. So that at these points, the drainage of all the lots and dwellings built in an irregular and straggling way up the acclivity is collected into two leads. There is no regular system of drainage whatever, and by each of these leads the water finds what course it may, except when reaching the streets running north and south, viz., Main and Second streets, under which it is conducted by passages of rough stone, to spread itself on emerging again, wherever it finds the lowest level.

There are thus two water leads from the back hills on this part of the amphitheater, designated A and B on the plat. *Along lead A five cases occurred, and the other five along lead B.*

It is important to note at this point that only the streets running north and south are graded and raised, being culverted a little below their surface, but by no means enough for the passage of all the drainage water under them. The drainage necessarily runs from west to east, while each of the north and south

streets being graded and considerably elevated above the areas immediately adjoining on the west, intercepts this tranverse drainage and dams back the water coming down the hill side. Especially is this the case at the intersection of Grundy and Second streets. Here we find quite a sort of terrace on which are situated the dwellings of Mrs. Pilcher and Mrs. Enwright. Around both of these dwellings, which are but little elevated above the soil, the hillside water collects, overflowing the entire yard and remaining on the surface until it dries up or is absorbed. Mrs. Enwright's house and room is not more than a couple of feet above the surface, and she was the first victim.

Lead A begins in the drainage from the premises and laundry of the Christian Brothers, (1) whence it passes through a small covered stone-ditch or culvert under Third street; this water was offensive when inspected at this point, early in April, 1879, by a member of the committee. As seen from the plan, it empties immediately into a deep and foul slough in a lot which receives the drainage of a stable, and the overflow from an old neglected privy almost directly in its course (9). This water then passes (and does so at *all times*,) across the alleyway, and runs into the open yard between the dwelling of Mrs. Pilcher and that of Mrs. Enwright, and a house twenty feet or so to the west of this (13). Here the drainage water, now contaminated, not only by the stable and privy already mentioned, but also by all the washings of the lots to the west and south immediately adjoining collects, being dammed back by the high grade of Second street. Its only outlet is in the direction indicated on the plan, in a circuitous way across a dead level, some hundred feet or so in extent, to the small opening at (14), when inadequate escape is provided under Second street, through an insufficient culvert now stopped up. Emerging by this culvert, on the east side of Second street, in conjunction with by far the greater part, which runs directly across the street, the water again falls into an irregular wash which occupies the area, through which Grundy street is surveyed, and passes on within twenty feet of the side of the Constant dwelling to reach the culverted passage under Main street, thence flowing into the river. The drainage from vacant lots on either side, and from a privy marked (10) is added to it. This drain from Second to Main streets consists of nothing more than an irregular and tolerably deep wash or shallow ravine.

It is thus seen that the terrace-like area on which the dwell-

ings of Mrs. Pilcher and Mrs. Constant are situated are liable to constant overflow; and to this point our attention was especially directed as the subject of much complaint by the parties now residing there. Nor is this water the uncontaminated surface washings of the hills but the drainage of neighboring lots, and the foul overflow of the filthy bog, into which the liquids of the privy marked (9), and of the stable (12), besides other accumulations of filth in neighboring premises, are constantly poured.

In the last week in August the rainfall was moderate (0.58 in.), while no rain at all fell in the first week of September, but there was a rainfall of no less than 2.05 inches in the week elapsing between September 7th and 14th. The premises in question were thus surrounded with foul water which lay upon the soil, making the lots so muddy that it was almost impossible to pass from house to house, and which emitted its humid and putrescent steams while drying up. Escaping from this area, in part, this foul water passed by the lead already described to stagnate in the shallow ravine directly under the windows of the Constant family.

Lead B begins near the southeast corner of Third and Ellwood streets, passes over broken ground around and in greater part directly through the premises where Mrs. Wilson died, to meet a series of small surface leads (15) by which the water escapes from the lots around. A portion of the lead passes directly in contact with the side fence to the north, and only a few feet from it, of the premises where Mrs. Vincent and mother died; and, as shown in the plan, runs around in front of the house and across an open area to the side drain on the north side of Fillmore street. Here it is joined by the water derived from leads (15), and courses on in an irregular ditch, through a nearly level area, just under the windows of the room in which Mohring died (8). Before doing so, it receives, first, the drainage from a large lot where a stable is situated, whence the water runs across Fillmore street to empty into the ditch, as shown; and, secondly, the back-water from a low area (marked 16) to the north of Mohring's house, on Main street, which water, collected from neighboring lots, is forced to flow backwards to the west, and thence southward across the yard of the premises in which Mohring fell sick and died. Main street is thus seen to constitute a dam, by reason of the elevation of its grade, which prevents the passage of the drainage across it towards the river, thus causing the

water to accumulate and find its way through back-yards into the natural lead.

So much for the water drainage and overflow. It must be also recollected that there is another sort of drainage intimately connected with the development of miasmatic and epidemic diseases: this is the ærial drainage at night. After nightfall, in consequence of the cooling of the surface of the earth by radiation, the stratum of air in contact with it likewise sinks in temperature, and being now increased in density, flows downwards along declivities, always following the natural water-leads, or remains pent up behind obstructions, if the night is calm, just as in the case of the denser fluid, water. In its downward course along the declivities, it bears along with it all the noxious emanations from the soil and collections of filth, as water takes the soluble gases and admiscible matters from similar sources. Along the water-leads described, the natural air-drainage from the hillsides thus takes its course towards the lowest level—the river—and overflows the dwellings situated along them, or accumulates and remains more or less stagnant, during calm nights, in such areas as those we find around Mrs. Enwright's and Henry Mohring's dwellings. So that we have, in this way, a double source of inquination of the air at night: first, the emanations from the foul and stagnant drainage water and half-dried soil of neighbouring lots; and, second, the emanations from the declivities of this amphitheater poured into the air after nightfall, and borne on the gentle current of the falling air towards the sleepers along the natural water-leads, or else resting stagnant around their dwellings until the following morning.

In all these aspects, the dwelling of Mrs. Enwright, on lead A., was the most insalubrious; and just here we find the first death. On lead B, the dwelling of Henry Mohring was nearly, if not quite, as badly situated; and in this house we have one of the earliest deaths.

In Lawrence Quinn's case the conditions were wholly analogous. The accompanying plan shows the situation of the house in which he contracted the disease of which he died.

This was the southernmost of a block or tenement of four small, wooden, one-story houses, of two rooms each, situated in "Central Carondelet," between the line (Market street is not laid out at this point) of Kansas and Market streets, on the north, or where the street would fall if laid out. The houses

consist of a single building, two feet above the ground, separated from each other only by wooden partitions. Each house is provided with a privy without drainage. Under the easternmost or back-room of each house a cellar is dug, to a depth of five or six feet in the ground. All of these cellars contain water (May 29th), and did so likewise all last summer, as we were informed, to a depth of a foot or two. This water is the drainage and surface-scourings of the surrounding hill-slope. The houses lie in an open area, far down a gentle declivity, over which the rainwater flows from the yards of the residences around and higher up. The lead for all this drainage is shown on the plan (marked A). It consists of several washes combining together to make quite a ravine, which is twenty-five feet wide and about ten feet deep, just under the windows of Quinn's sleeping-room. Here the bottom of the ravine is wide, and trampled by cattle into a foul mud. None of these houses are occupied at this time (May 29, 1879), being regarded as very undesirable. Being exposed to the full effect of the sun, they are intolerably hot in summer,—not having a tree near them. Quinn's residence was therefore in a position in all respects analogous to that of Mohring's or Mrs. Constant's, viz., directly on the edge of a ravine-like drain, down which the water from the neighboring higher ground naturally flowed, and in which the filthy drainage was gradually dried up by the sun. Higher up the hill-slope, on the east, a cow stable was noticed, emitting even at this early period of the season a most noisome stench. It must be recollected, also, that the nocturnal aerial drainage, from the surrounding hillsides to the north and east, following the lead by which the water passes off, would likewise flow into and around the apartment in which Quinn lived. Nor must we neglect to consider the influence of the humidity begotten by several inches, at least, of water ("deep enough for fish to live in," as our informant stated when he showed us the premises) constantly present directly under three of these houses, and flowing off under Quinn's room by a ditch for the purpose leading into the ravine. In all these respects, we find a complete repetition of the condition of the premises in which the Pilcher children, Mrs. Constant and Mrs. Knight, Mrs. Wilson, Mrs. Vincent and her mother, and Henry Mohring had lived and died.

Mr. Enwright's death, on September 17th, was closely followed by that of Mrs. Constant's, on September 22d, too closely

to admit of any supposition of dependence of the second upon the first. It must be recollected that Mrs. Constant lived not more than 150 yards from the house of Mrs. Enwright, directly east and immediately below. The next case along this lead was Mrs. Knight, mother of Mrs. Enwright, who died on October 17th, having been sick some time. Five days after this, on the terrace near the head of this lead, the two Pilcher children died. Mrs. Wilson's death, on the 14th of October, was followed on the 18th by that of Henry Mohring, too closely to warrant any supposition of connection between the two cases, save that of nearly coincident affecting influences. Mrs. Philomena Vincent lived in the house immediately adjoining that of Mrs. Wilson, and a few feet lower down the hillside. Her death, on the 20th of October, and of her mother, likewise, may be fairly attributed to joint affecting influences of a miasmatic character, to contiguity to Mrs. Wilson, or to personal contact, perhaps. The case of Miss Mary Enwright, who died on October 27th, is perhaps attributable to contact with some of these cases, or to the *local causes*. She visited her mother while sick, but this was nearly six weeks before. The fact that the steamer Porter lay at the foot of Market street, would seem to have no necessary bearing upon the origin of these cases. Her doing so was probably, and indeed most reasonably, a mere coincidence. No cases occurred soon after her departure on August 3d, although diligent inquiries have been made on this point concerning persons known to have gone on board of her. This boat lay at the point indicated because a wharfboat is placed there, and the Missouri Iron Works are near by, and both the wharfboat and the works would seem to be located at this point in view of the general topography of the locality already referred to. Here, where the level is lowest and the water-leads empty naturally, is the most appropriate place for a landing, and for the location of works (situated, however, some squares down the river, at the foot of Kansas and Lafayette streets) which draw supplies of a bulky character from steamers, such as coal and coke, and iron ore from the railroad which lies between them and Main street. That the Porter should have landed at this point is just what she should naturally have done, and what she had done many times before, and has done nearly every two weeks since resuming her interrupted trade on the river. It is most reasonable to conclude, therefore, that her visit had no causative relation with the

cases detailed; at least we are in no way warranted in concluding to that effect in the face of the facts, which can be satisfactorily accounted for in quite a different way. An incubative period of forty-three days can scarcely be admitted, viz., from August 3d to September 15th, the probable date of Mrs. Enwright's attack.

No other supposition, finally, seems to be legitimately tenable than that the series of cases at Carondelet were purely of local origin, although it is not possible to affirm how far the individual cases affected each other. We have here a group of ten cases, seven of which (Mrs. Enwright on September 17th, Mrs. Constant on September 22d, and Mary Enwright on October 27th), occurred within *eight* days of each other, viz., from October 14th (Mrs. Wilson) to October 22d (Mrs. Pilcher's children.) Twenty-three days elapsed between the first two almost immediately consecutive cases, and the main group of eight cases all occurring in the third week of October. The advancing season arrested the further development and spread of the disease, the thermometer falling 9.3° between the 19th and 26th of October, (mean temperature for week ending October 19th, 61.5°, and for week ending October 26th, 52.2°), with a still further rapid decline of 10° more of *mean* temperature in the week ending November 2d, viz., to 42.2°. Miss Enwright's was the last case.

In Louisville, Ky., after the 27th of September, and up to the 19th of October, a series of local cases occurred, fifty or more, of which twenty-eight died (Dr. E. O. Brown's Report.) All these cases arose within a very limited area, immediately adjoining an alley which was excavated to the depth of two and a-half to five and a-quarter feet. In the language of R. T. Scowden, engineer, in the report cited, "the soil in the old alley way was more or less impregnated with putrescible matter from the absorption of liquid refuse and contaminations from decomposed house garbage." This excavation, undertaken to lower and correct the grade of an alley, involved interference with an open privy vault, which encroached upon the line of the alley about three feet. In the body of the alley, also, traces of three old privy vaults appeared from depressions in the ground. Here we have disturbance of the surface soil, and uncovering (at least) of privies in the face of the searching epidemic influences of 1878, things which are peremptorily forbidden in Southern cities during the summer months.

Louisville thus had her limited epidemic in October, from whatever causes arising. In Cairo, also, we find a late and lim-

ited epidemic. From notes kindly furnished by Dr. Charles W. Dunning, of that city, out of fifty deaths by yellow fever in Cairo between August 17th and November 2d, *thirty* occurred in the month of October.

We shall err on the safest side, viz., the hygienic one, by assuming that this group of cases in Carondelet was of the nature of a localized, and fortunately very limited epidemic, produced, as in other cities of this region of the Mississippi Valley, under the extraordinary pressure of the meteorological conditions of 1878, upon the basis of a bad sanitary condition of the premises involved. The evidence of contagion seems to be absent.

DR. L. S. REBER, who saw several of these cases, affirms that they were undoubtedly yellow fever, and Dr. N. L. Hornsby, in an interview with a member of the committee on the 29th of May, 1879, after a discussion of the subject, authorizes us to state "that the characteristic symptoms of several of these cases were in no respect different from those of yellow fever, and that in his opinion it is possible that the disease may have been communicated by the steamer Porter." In these opinions Dr. W. B. Outten, also a member of the Carondelet Committee, is willing to concur, and authorizes us to say further, that upon looking more closely into the history of the cases, their symptoms, and the locality in which they occurred, than he had been able to do at the time the Carondelet report was signed by him, he now (June 1st, 1879), has no hesitation in affirming that all of these cases were undoubtedly yellow fever. He is inclined to think they were due to contagion from the steamer Porter, disseminated either by the discharged crew or by other persons who had visited her. These cases, he further wishes to say, may have taken their origin in contagion conveyed by the unchallenged intercourse of persons living at Carondelet with Quarantine, some nine miles below, such communication, in numerous instances, being positively known to have taken place.

Annexed is a tabulated statement of the foregoing cases:

We append the following, as of interest with regard to the independent origin of yellow fever, and its relation to what is known as malignant swamp fever in the Southwest.

DR. J. T. HARRINGTON, No. 1429 Morgan St., communicates some interesting facts relative to certain cases of fever, either properly yellow fever or very closely simulating this disease. The Doctor states that he saw, between the 15th of August and 15th of Sept., 1878, in Chickasaw County, Mississippi, six cases, of of what his father, an old practitioner, called at the time *yellow fever*. The symptoms were pains in the back and head, nausea and great gastric irritability and epigastric tenderness. Two of the cases had black vomit and watery, exceedingly offensive black discharges per anum. One of the cases vomited bloody matter mixed with mucus. The two worst cases were much jaundiced, the conjunctivæ becoming very much tinged. The other four did not become distinctly yellow. The two worst cases had partial suppression of urine. Most if not all the patients had intermittents in June and July. They all recovered under heavy dosing with quinine. Morphine was not administered to any of them, chloral and Hoffman's anodyne being used to quiet their nervousness.

All these cases occurred in the persons of farmers residing at their homes, on three large creeks emptying into the Tombigbee river, within a radius of two and a half miles. The lower part of Chickasaw County, where these cases occurred, is very flat and swampy, commonly overflowed by rains and the rise in the creeks in the spring. The summer of 1878 was exceedingly hot and prolonged. There was no case of yellow fever in the season (1878) or formerly, as far as Dr. Harrington has heard, in Houston, the County seat of Chickasaw County. The Mobile and Ohio railroad is the only railroad which pases through the County, in which there are but two railroad stations, viz., Okalona, a town of four or five thousand inhabitants, and Egypt, a place where there only are some inconsiderable stores. Okalona is twenty miles distant from the neighborhood where these cases occurred, and Egypt twelve miles. There is no positive evidence that there were any cases of yellow fever either at Okalona or at Egypt, although such has been reported to have been the case. Dr.

Harrington does not think that either of the patients visited the railroad stations, although they did visit Houston. The patients had usually very filthy surroundings; living in log houses on the ground, in close proximity to stables and cattle pens. In addition to the bad smells that could be perceived after nightfall all through the country, Dr. Harrington distinctly observed, while sitting up at night, the smells of putrefaction emanating from filthy collections near the abode of the patients. Dr. Harrington is firmly of the opinion that these cases were identical in nature with the yellow fever of cities, and his father, who has practiced in Memphis and seen yellow fever there, declares that one of the cases was as well marked in every characteristic of yellow fever as any case he ever saw in Memphis.

At the time these cases were seen, intermittents, and especially remittents, were unusually prevalent; indeed, malarial fever of remarkable gravity and obstinacy prevailed everywhere through Chickasaw County, and in all that part of the State. Dr. Harrington states that his father affirms that the malarial affections of 1878 in Chickasaw County, were more severe than any he had ever seen in that county during a practice of many years.

DR. W. H. FORD, 2945 Gamble St., relates the case of a Mr. Turney, at Kirkwood, Mo.

Turney was a young man, some 22 years, of age, clerk on a river steamer. About the 18th of August the boat touched at Memphis, where the yellow fever was prevalent at the time, and remained at the landing one night. Turney did not go ashore. Next morning the steamer went down the river and ascended White river in Arkansas, on one of her regular trips, to Newport. She was there moored in the stream, and Turney lived on board of her for two weeks, at the expiration of that time going ashore and living in a house on the bank or bluff. The water used by him was very bad, but there was nothing like yellow fever in the place up to Sept. 17th, when Turney left Newport for Kirkwood, Mo., by the Iron M. R. R. On his way up he was seized with a heavy chill followed by high fever. The fever did not remit, and there was no subsequent chill or rigor. Dr. Ford visited him at 6 P. M. on Sept. 19th and found him very sick.

The symptoms were constipation, injection and suffusion of the eyes, great prostration, temperature of 103°, pulse 100, or a little more. There was inappetence, but no nausea or vomiting. That night or next morning he bled smartly from the nose. Next evening, the symptoms were aggravated and there was a general disposition towards congestion of the surface. Quinine was given in doses as large as he could take, a drachm within twenty-four hours being ordered. The diagnosis was of malignant swamp fever. The citizens of Kirkwood however were so apprehensive with regard to his case, that he was sent down to Quarantine by ambulance, on the night of Sept. 30th. There he lingered for about three weeks, having hemorrhages by the mouth and bowels, and finally died. Both Turney and his friends positively asserted that he had not been in contact with any one sick of yellow fever, and when he arrived in Kirkwood he was in possession of a health certificate to that effect.

The following will be perused with interest:

DR. S. P. JOHNSON, 801 Franklin Avenue, states that he has seen several epidemics of yellow fever in the United States and in Rio Janeiro. The prevailing opinion in Rio Janeiro is that yellow fever is not contagious. The doctor saw many cases on board the shipping at Rio Janeiro, but all cases so occurring had had communication with the city when the disease was prevailing. A system of quarantine was in force, but was lax and was easily evaded. Back of the city, the land rises towards the hills, some two thousand feet high. At Laryngaris, 1,200 feet above the sea, and five miles from Rio Janeiro, and also at Petropolis, some 2,000 feet in elevation, across the bay, and forty miles from the city, the residents never contract yellow fever, except after a visit to the city. On the contrary, business men and residents of the city, who have taken the disease there, die when they leave the sea level and ascend to these heights. Cases of fever developed on the hills, in the persons of such individuals, invariably fail to extend among the residents of the hill country, who evince no fear whatever of the disease, nursing and visiting its subjects without any apprehension whatever, being well aware of their immunity. The Doctor states as his opinion, that the

immunity is entirely due to a lack of receptivity among the inhabitants of the highlands, where he has never known of a case of bilious fever, where the nights are always windy, and so cool even in midsummer, that it is necessary to cover with a blanket.

There is no sewerage in the city of Rio Janeiro, although from the inclination of the streets, the drainage is good; the streets also are well paved. Yellow fever is generally limited to the lower classes of the population.

Back of the city, the bay leads into a series of ponds where the slaughter-houses are situated. There is no provision made for the drainage of privies, which are pits sunk in the ground, as in Charleston and New Orleans. Near the mouth of a creek (Catette) which opens into the bay, he noticed a great accumulation of filth, which emitted a horrible stench. This material had been washed from the area, extending between the city proper and its suburb, Bota-Foga. Very little fever prevails in Bota-Foga, even when the disease is epidemic in the city. Bota-Foga is elegantly built up, and kept in unusually good hygienic condition, being for the most part a collection of suburban residences of the better classes, who live or do business in Rio Janeiro.

SECTION V.

CLASSIFICATION AND SUMMARY OF ALL CASES OF YELLOW FEVER OCCURRING IN ST. LOUIS AND ITS VICINITY, IN 1878.

	Recovered.	Died.	Total.
Cases of Yellow Fever treated in the city of St. Louis, in persons coming from points where the disease was prevalent	16	19	35
Cases of Yellow Fever treated at Quarantine, from all sources	59	38	97
Cases of Yellow Fever arising by contagion in St. Louis and suburbs, not treated at Quarantine	4	3	7
Cases of Yellow Fever arising by contagion in St. Louis and suburbs, treated at Quarantine	3	8	11
Cases of Yellow Fever, or closely simulating that disease—where contagion could not be demonstrated—occcuring in St. Louis and suburbs, not treated at Quarantine	1	11	12
Cases of Yellow Fever, or closely simulating that disease—where contagion could not be demonstrated—occurring in St. Louis and suburbs, treated at Quarantine	..	1	1
Cases of Yellow Fever treated in St. Louis, its suburbs, and at Quarantine, in the year 1878	80	71	151
Cases of Yellow Fever treated in St. Louis, etc., and at Quarantine, in persons from cities where the disease prevailed (exotic cases)	72	48	120
Cases of Yellow Fever arising in St. Louis and suburbs, in persons of residents, or who had not been to the South (indigenous cases)	8	23	31

The number of deaths by yellow fever imported, and of domestic origin, occurring properly in the city of St. Louis and its suburbs, was thirty-three; of these, fourteen were indigenous cases, and nineteen from abroad. Thirty-eight deaths are also recorded at Quarantine, making a grand total of seventy-one deaths by yellow fever of domestic and extraneous origin conjointly.

The number of deaths by yellow fever of *domestic origin*, was twenty-three out of thirty-one cases; of which, nine deaths occurred at Quarantine, the patients having been removed thither, and fourteen in St. Louis and its suburbs.

CONCLUSIONS.

The general conclusions reached by the committee, are as follows:

1st. Yellow fever may be acquired in St. Louis, by contact with persons sick with that disease, and with the apparel of persons who have been in contact with the sick; by entrance into the holds or apartments of steamers, or by communication with their cargoes.

2d. Yellow fever, or at least an equally fatal disease in no way distinguishable from yellow fever, and like it, contagious (Miss Enwright from the person of her mother,) may be generated *in loco* by bad sanitary conditions in this city and its suburbs.

3d. The population of St. Louis does not acquire the capacity of receiving yellow fever, until late in the season, viz., the end of September and month of October, in the great majority of cases.

4th. Individuals weakened by disease, and especially the subjects of malarial fever, evince the greatest readiness to acquire yellow fever by contagion.

5th. A sort of hybrid fever, characterized by intense and often repeated rigors, analogous to break-bone fever, (Dengue) may be acquired in St. Louis by contact with places or things which have been in relation with persons sick of yellow fever.

6th. For the prevention of yellow fever in St. Louis, the most rigid Quarantine possible should be established, with reference to cities in which yellow fever may appear, to be maintained until the month of November, or a permanent decline of the weekly mean temperature to 40°.

7th. Subjects of yellow fever at Quarantine, should be segregated there, and served by a special corps of attendants, who should not come in contact with any other patients.

8th. No disturbance of the soil, or rectification of drainage, should ever be practiced in the presence of yellow fever.

9th. The subjects of yellow fever should, if practicable, be promptly removed from the city and taken to Quarantine.

10th. All sanitary measures relating to the abatement of nuisances capable of causing disease, should be instituted and completed before the month of July.

11th. The cardinal property of yellow fever, so far as St. Louis is capable of being invaded by the disease, which has now been unfortunately proved, though on a very limited scale, is its indisputable contagiousness; but inasmuch as an acceptance of this contagion implies a certain receptivity previously wrought by meteorological influences in conjunction with the effluvia of putrefaction, still greater attention than ever should be paid to matters of drainage and general sanitation. Such action will constitute a safeguard to the public health, we are assured, more reliable than even a rigid quarantine, while in numberless other ways, it will conduce to the welfare of our city. All of which is respectfully submitted.

W. HUTSON FORD, M. D.
F. J. LUTZ, M. D.

Editorial.

REPORTS TO THE ST. LOUIS MEDICAL SOCIETY ON YELLOW FEVER.

This work is published under the auspices of the St. Louis Medical Society, consequently was revised by its Committee on Publication, Drs. Kennard, Coles and Bryson. It contains the record of quite a number of our most prominent physicians who attended yellow fever patients in 1878. It is a work of 328 pages, five colored plates, a large number of meteorological and other tables, and reflects great credit on the St. Louis Medical Society, and upon its committee, Drs. W. Hutson Ford, F. J. Lutz and Walter Wyman, who made the report, but especially upon the chairman of the committee, Dr. Ford. Very few can estimate the great amount of labor that the committee must have done to make this large report so complete as it is. Dr. Ford's name has been for a long time associated with the investigators of this terrible disease. The profession are very greatly indebted to him for this report, as it is almost entirely the product of his own observation and researches. In our humble judgment, it is the very best work on the etiology and treatment of yellow fever in print.

Geo. O. Rumbold & Co., the publishers, have not spared time, labor or money in the production of the book. The large number of tables and the colored plates make it a very expensive book for its size. It is printed on the best of tinted paper and is bound in a neat muslin cover, with beveled edges.

The book is larger than was anticipated, by 128 pages. This compels the publishers to ask $2.50 instead of $2.00, as was announced in the last issue of the JOURNAL.

WILL WE HAVE YELLOW FEVER IN ST. LOUIS THIS YEAR?

Yellow Fever prevailed in the form of limited and local outbreaks in St. Louis, Cairo, and Louisville last year much about the same time of the season, viz., late in the months of September and in October. The season of 1878 was a very trying one, and all the conditions necessary for the production and prop-

agation of yellow fever were evidently at an exceedingly high grade. It was found in our experience of last year that yellow fever, as imported from the South, manifested a disposition to become contagious in the cities named, only late in the season, that is, towards the end of September, or during the month of October.

We cannot assume any liability to yellow fever in these cities, earlier than the month of September, or in very isolated cases in August. We must rest upon the records of 1878, as it is highly probable that yellow fever will in future be governed by the laws which it acknowledged in these respects last year. We have no *right* as far as we know, to affirm that St. Louis is in any imminent danger of contagion, from the South or otherwise, but if we should have a visitation from this disease, it will not be, as far as we have any reason to know, before the latter part of the Summer or early Fall months.

To be liable to this disease, we must have (in addition to the thousands of refugees from the South who bring the *materies morbi* with them) high temperature, continued great humidity, and calms, together with a filthy condition of our city.

CREMATION AS A PREVENTIVE OF THE SPREAD OF YELLOW FEVER.

We are not, at present, in favor of cremation, generally, but certain circumstances have of late arisen that compel us to be greatly in favor of this method of disposing of the bodies of those who die of yellow fever. From what we have learned from private sources, the resurrecting of the bodies, during the winter months, of those who died of yellow fever, has done much to perpetuate this terrible disease in our Southern cities until the warm weather has set in. Cremation obviates all possible harm that can come from the dead, and duty to the living demands that everything should be done to destroy the possibility of propagating this and all contagious diseases that run so malignant a course.

THIS issue of the JOURNAL contains 144 pages of reading matter. We have devoted quite a large space to extracts from the "Reports on Yellow Fever to the St. Louis Medical Society," knowing that a great majority of our readers are greatly interested in the study of this disease.

Book Reviews.

Pott's Disease. Its Pathology and Mechanical Treatment with Remarks on Rotary-Lateral Curvature. By Newton Shaffer, M. D., Surgeon in Charge of the New York Orthopedic Dispensary; Orthopedic Surgeon to St. Luke's Hospital, [New York: G. P. Putnam & Sons. 1879.]

The above is the title of a little book of 81 pages, well worthy the perusal of every physician. The opportunities of Dr. Shaffer have been unusual, he having recorded or under his personal supervision had recorded "over four thousand cases" of joint and spinal diseases.

The first chapter, that on the pathology of the disease, is much needed by the profession of the United States. He divides the disease into four stages.

The first stage is difficult to determine in its inception, and for this reason little observed. The patient is indifferent to ordinary amusements. Perhaps there may be slight fever, mistaken for malarial fever. This stage may exist many months or only a few days.

Second Stage—Stage of pain. This stage may be absent. "Pain, however, is present in the great majority of cases of chronic spondylitis, and it is generally accompanied, and not infrequently preceded by septic spasms of some of the spinal muscles."

"Third Stage—That of deformity."

"Fourth Stage—That of abscess."

"The nearer a chronic spondylitis approaches acute disease in character, the more favorable and of course the more quickly obtained is the result." "An early suppuration, even if it be extensive, has in our experience been indicative of a timely and favorable result." "If the disease occurs in that region of the spine which affords attachment for the *psoas magnus*, this muscle, as well as the *illiacus internus* may become the seat of reflex spasm." When this condition is found "I administer ether, after the plan of Dr. Packard, of Philadelphia, and during the primary stage of anæsthesia. * * * * * I have been enabled to examine * * * without meeting muscular resistance the abdomen and pelvic fossæ" and thus determine the presence of abscess. "The German authors use many names to describe the several conditions found in chronic articular lesions." "Fun-

goid and suppurative" may be made to embrace them all.

"Pathological anatomists who see caries in the dissecting room only, seldom know the granulo-fungous variety well." "But anyone who has frequent opportunities of examining pieces of carious bone during life, especially the essential joints of children when the person is in a state of active development, will form a very different opinion." "The general failure of that vital force which precedes death produces an effect on fungous granulations which results in a rapid breaking down of the neoplastic proliferations of dry caries. The result is the formation of a degenerate pus which is discovered at the autopsy." "Hence it is that some observers have concluded that 'all spinal caries is suppurative.'"

"Reflex muscular spasm is not so marked in the suppurative as in the fungous form," hence in the dry forms neither mechanical nor constitutional treatment will prevent "increase of spinal curvature."

"I am convinced, after studying over three hundred cases of the typical rotary lateral curvature, and especially the development of the muscular resistance, that no analogous muscular contraction exists in any condition without some central or marked reflex cause. At any rate, I am prepared to state that rotary lateral curvature has a specific pathological cause."

"When the bone becomes involved, the neural response is unmistakable. The marked reflex spasm of the muscles occurs quite early in all inflammations involving the epiphysis or bodies of vertebræ, and is almost uniformly absent or developed only to a slight extent in all true chronic synorial inflammations. * * * *Reflex muscular spasm in chronic joint disease always indicates ostitis.* * * * Its presence is due to a direct pathological cause, and is not conservative."

"I epitomize some valuable conclusions of the author, thus:

1st. A forcible examination of an inflamed joint under ether is followed by aggravation of the symptoms.

2d. If spasm disappears under profound anæsthesia, no good will result from division of the tendons.

3d. So long as joint movements are impeded by localized reflex spasm during consciousness, and all muscular resistance ceases under ether, an ostitis exists as in chronic epiphysitis, so in chronic spondylitis the reflex tetanoid spasm yields to ether," but not to morphine or chloral in ordinary doses.

While suspension is employed nowadays to reduce the deformity of Pott's disease * * * it cannot do more than modify the compensatory nerves, unless ether be administered." * * * "It is due to the presence of this muscular spasm during the process of suspension without an anasthetic, that more harm is not done by the rejuvinated custom of using 'the gallowes' in the treatment of Pott's disease."

The second chapter is occupied with the "treatment." The

author would discard the plaster jacket in all cases, except those involving the five lumbar and five lower dorsal. "It becomes obvious that as a support, the plaster jacket *per se* ceases to be operative above the seventh dorsal vertabra."

In speaking of the jury mast, he says, "This ungainly and defective apparatus as a means of support, cannot be compared to the light and comfortable chin piece devised by Dr. Taylor, which makes the treatment of cervical cases one of the pleasures of the orthopedic surgeon."

"I have earnestly endeavored to weigh the merits of the plaster jacket as a mechanical aid in the treatment of Pott's disease. I regret that I can find so little to commend, and so much to condemn regarding its use. I can safely say that with less trouble, though at a little greater expense, much more satisfactory results can be obtained by the intelligent use of the antero-posterior support. I do not mean to say that the gypsom splint should be wholly discarded in the treatment of Pott's disease."

"Clinical experience has taught me to divide the vertebral column into three regions so far as the treatment of spinal cases is concerned." The first region includes the lumbar and five last dorsal. The second comprises the first to seventh dorsal, both inclusive; and the third includes all the vertebra above the first dorsal.

"In cases involving the middle region (the superior dorsal), we find many difficulties presenting in the way of securing an adequate degree of fixation." Thus it is that the pendulum which had swung to the extreme in the use of plaster paris, is turned back by the weight of experience.

It is but just to say that plaster paris has had a severe and most unfair trial. It fell into the hands of every practitioner as a means by which the unskilled could cure Pott's disease, and was heralded with a force that made its claim heard by two continents. It is championed by one whose faith is sublime, and whose utterances have the tone of inspiration; and it is not surprising then, that the sufferer from Pott's disease, and the sympathetic physician whose longings for relief for his patient have been unsatisfied, should grasp with eagerness this new promise of relief from physical suffering and mental anxiety. Neither is it surprising that the shout of triumph should subside into a wail of disappointment when it is too keenly felt that much that was promised has not been realized. Nevertheless the plaster jacket has relieved pain; has limited deformity, has saved life, and its author, as also its herald, are entitled to our thanks.

Statistics given by the author are discouraging. "During the year 1877, out of 299 cases of Pott's disease treated in my service at the New York Orthopedic Dispensary, sixteen were discharged cured." * * * Forty-four of these 299 were discharged as relieved, which means that while all of them have been greatly benefitted, many of them have I doubt not been cured."

* * "Fourteen were discharged for neglect." * * * "Two were incurable; ten died; 213 were continued to 1878."

"Of the 267 treated in 1878, eighteen were discharged cured." * * * Forty four of these 267 were discharged relieved, * * * six were discharged for neglect, and twelve died."

So it appears that 349 cases were treated in two years, of whom thirty-four were cured—10 per cent—eighty-eight were relieved —25 per cent—twenty were discharged for neglect—six per cent —and 207 remained. J. T. HODGEN.

MANUAL OF THE PRINCIPLES AND PRACTICE OF OPERATIVE SURGERY. By STEPHEN SMITH, A. M. M. D., Surgeon to Bellevue and St. Vincent Hospitals, New York. Pages 689. [Boston: Houghton, Osgood & Co. The Riverside Press, Cambridge, 1879.]

The author of the manual before us is already favorably known to the profession through his most excellent "Hand-book of Surgical Operations," which was issued during our late civil war. The little work not only subserved the object intended by its author—to aid the military surgeon in the emergencies of the service—but it subsequently became one of the standard text-books in many of the medical colleges.

The "manual" is the "hand-book" enlarged so as to include "the general operations of surgery in civil practice," as the author modestly informs us in the preface, but those who are familiar with the hand-book and will examine the elegant volume now offered will perhaps recognize quite a number of illustrations and a little of the text as old friends; otherwise the book is an entirely new one.

Even a cursory perusal of the work at once stamps the author as a philosophical thinker, a careful surgeon, and an honest, conscientious teacher, who, although abreast with the latest advances in surgery, yet offers new theories and methods to the student only so far as they are obviously correct or sanctioned by the weight of responsible names.

The book is divided into eleven parts, and the first part into an equal number of chapters. In the first chapter he very concisely but clearly speaks of the obligation, impressing upon the reader the necessity of an adequate knowledge of the principles of operative surgery, and the importance of applying his knowledge to accomplish the desired purpose. After describing the qualifications demanded of the surgeon, the care he must bestow upon every case entrusted to him, the good judgment he must exercise in his professional acts, and the responsibility imposed upon him, he discusses, in the second chapter, the examination of the case, insisting upon a systematic inquiry as to the nature of the disease, the condition of the patient, and of all the circumstances favorable or unfavorable to success. Chapter III treats of the preparation of the patient and his surroundings for

the operation, of the time and place, when and where to operate, and the proper selection of instruments. Chapter IV tells us how to deal economically with the blood of the patient, and Chapter V is a treatise on anæsthetics and the mode of administering anæsthetics, locally and generally. Chloroform is pronounced "the most rapid, certain and effective anæsthetic." In the sixth chapter we are taught how to use our instruments to the best advantage, and the seventh contains a description of the sudden and dangerous accidents and complications which may arise during and after an operation, and which demand prompt recognition and energetic treatment. Then follows a chapter on dressings. Of course, due prominence is given to antiseptic surgery. To obtain the brilliant results which the followers of Lister claim for antiseptic surgery, it must be employed in a systematic manner,—all the minutiæ must be carefully attended to. Experience will teach everyone that those things which appear most trivial, and which smack of pedantry, are of the utmost importance. Our author is well aware of this, and devotes three closely-printed pages to the proper method of antiseptic dressings. A chapter on appliances, one on the repair of wounds, the changes, local and general, incident to this process, and another on cicitrization, close the first part of the work. Time and space do not permit us to attempt a synopsis of the other parts.

The book is profusely illustrated. The wood-cuts, which adorn almost every page, are selected with great care and used with much judgment. There is little to criticize. It is, without question, the most complete operative surgery in the English language, for, within the space of somewhat less than 700 closely-printed pages, the author treats of almost every operation which the surgeon may be called upon to perform; and the few omissions which we have noticed in looking through the work, such as making no mention of the operation of resection of the rib in suppurative pleuritis, and the neglect to incorporate the simple, neat and efficient operation of resecting the inferior dental nerve, as devised by Dr. Hodgen, will no doubt be corrected in a future edition.

Mere verbiage is studiously avoided; the style is clear and to the point. The frequent reference to standard authorities makes the book a resumé of the best methods known, and it is safe to predict that it will become the standard work of reference for the busy practitioner, as well as a trustworthy guide for the student of surgery. A full alphabetical index closes this most excellent volume. The imprint of the Riverside Press is a guarantee that the topography is all that could be desired.

F. J. LUTZ.

A PRACTICAL MANUAL OF THE DISEASES OF CHILDREN, with a Formulary. By EDWARD ELLIS, M. D. Third Edition. 1879. [Lindsay & Blakiston: Philadelphia.]

A small volume of 385 pages, seventy-five of which are devoted to a Formulary and Dietary, must, of necessity, be wanting in many "essentials," even though claiming for itself to be only a "Practical Manual of the Diseases of Children." In his preface to the first edition of his work, Dr. Ellis sets forth his object "to present concise yet thoroughly practical descriptions of the principal diseases of children." It is a most difficult matter to be concise under such circumstances. A mooted question demands a thorough elucidation of the points at stake. We are unwilling in medicine to have forced upon ourselves the consciousness of having to be empirics. We should not blindly follow when so much of all diseases is still theory under discussion. Dr. Ellis makes ten chapters of his book; the first, ninth and tenth treat respectively of General Observations on Management and Diet, General Therapeutical Hints, Formulary and Dietary. Chapter V is devoted to fevers. We, of course, differ with the author in his statement that Intermittent Fever occurs but rarely in children, and, therefore, cannot but feel that two pages devoted to this at times troublesome and malignant affection, might as well have remained unwritten, so far as a just consideration of the subject is concerned. Chapter VII, on Diseases of the Air Passages and Thoracic Organs is the most elaborate of the volume. The author is fond of caustic applications to diphtheritic sore throat. Carbolic acid just made fluid with a little water—glycerin preferable—and applied topically, is pronounced by him as perhaps the most useful local application we possess. He does not question "whether the action be caustic or disinfectant, or a little of both," so long as the result is good, as it unquestionably is on the testimony of many medical men in Victoria, New South Wales and elsewhere. As the next most useful medicine, he pronounces in favor of a strong tincture of iodine, topically applied. As a disinfectant, he favors sulphurous acid vapors. He especially recommends chlorate of potash, hydrochloric acid and tincture of steel for constitutional treatment.

The last chapter of the volume, Dietary, is certainly useful to the junior practitioner. It is but too frequently the case that the physician is but a poor cook, and Dr. Ellis has done well to append to his book this chapter. Considering the work as a whole, it is, in our judgment, devoted too much to the cure of disease. It is for this reason alone, impractical. The successful practitioner bases his success on his power of detecting disease, without this his skill of treatment is, to say the least, questionable. The author recommends his work to the junior practitioners. It is a safer work in the hands of the experienced, thoughtful physician.

W. E. FISCHEL.

HANDBOOK OF DIAGNOSIS AND TREATMENT OF DISEASES OF THE THROAT AND NASAL CAVITIES. By CARL SEILER, M. D., Lecturer on Laryngoscopy at the University of Pennsylvania, etc. with thirty-five illustrations. [Philadelphia: Henry C. Lea. 1879.]

The Author of this little volume says that it is intended to serve as a guide to students of laryngology in acquiring a skill requisite to the successful diagnosis, and treatment of the diseases of the larynx and naso-pharynx, and we presume the nasal cavity, also, as these cavities are mentioned in the title of the book and treated in a body.

Purely theoretical considerations are omitted. He has a table on symptoms of the diseases of the larynx and one of symptoms of the diseases of the naso-pharynx. These tables are taken from the record of over a thousand cases that he has treated himself, and exhibit a product of a great deal of work in small space. We cheerfully recommend the book to those who desire to study the diseases of the throat and nasal cavities.

THE DISEASES OF LIVE STOCK AND THEIR MOST EFFICIENT REMEDIES; including Horses, Cattle, Sheep and Swine, being a Popular Treatise, giving in brief and plain language a description of all the usual diseases to which these animals are liable, and the most successful treatment of American, English, and European Veterinarians. By LOYD TELLOR, M. D. [Philadelphia: D. G. Brinton. 1879.] 8 vo, pp. 469.

This is really a very useful book. The author, although not a veterinary surgeon, lays claim to some special qualification for the preparation of his book, as he was brought up on a farm and practices medicine in a rural locality, and, as is the wont of country doctors, often consulted about the diseases of domestic animals. Being interested in this he bought the best books on the subject and in this book combines the results of his study, experience and observation. We would advise every country practitioner to procure a copy.

ELEMENTARY QUANTITATIVE ANALYSIS. By ALEX. CLASSEN, Prof. in Royal Polytechnic School. Aix-la-Chapelle. Translated, with additions, by EDGAR F. SMITH A. M. Ph. D. Ass't in Analytical Chemistry in the Towne Scientific School, University Penn.

This work needs no commendation from us. A work which has been adopted as a text-book in all the prominent German Universities and Polytechnic Schools, and in this taken rank with older and larger works on the same subject, is certainly a valuable acquisition on this side of the Atlantic. It is published by the house of Henry C. Lea, and is gotten up in the best style of the art. The author, in the preparation of this work, did not

forget the wants of his youth. He has led the student from the simplest to the more complex analysis, and thus given him confidence and strength at every step of his laboratory work. The students of chemistry will find it a valuable guide in quantitative analysis.

PRACTICAL CHEMISTRY FOR MEDICAL STUDENTS. By M. M. PATTISON MUIR, F. R. S. E., Prof. in Chemistry, Cambridge. 64 pp. [London: Macmillan and Co., Publishers]

The student will find in this little book a good many very valuable suggestions and directions. Much information is here contained in a small compass, and he who will go through the work experimently, will find in the end that he knows a good deal about Chemistry. The more one knows of Chemistry, the more valuable will this little book prove to him. H. C.

ESSENTIALS OF CHEMISTRY, INORGANIC AND ORGANIC. By R. A. WITTHAUS A. M. M. D., Prof. Chem. in Med. Dept. University of Vermont, etc.,

This little volumne is an excellent *vade mecum* for the practitioner. After one has mastered the principle of the disease, this little book will be found an interesting and useful *companion*. As such we can cordially recommend it. H. CHRISTOPHER.

Books and Pamphlets Received.

THE TORNADO OF APRIL 14, 1879. As it passed Collinsville and neighborhood. Illustrated by two large charts showing the direction and peculiarities of the storm. By J. L. R. WADSWORTH, M. D., and FRANCIS E. NIPER. From the transactions of the Academy of Science of St. Louis, Vol. IV., No. 1.

THE NATIONAL DISPENSATORY. Containing the natural history, chemistry, pharmacy, actions and uses of medicines, including those recognized in the pharmacopœias of the United States and Great Britain. By ALFRED STILLE, M. D., L. L. D., Professor of the Theory and Practice of Medicine and of Clinical Medicine in the University of Pennsylvania, and JOHN M. MAISCH, Ph. D., Professor of Materia Medica and Botany in the Philadelphia College of Pharmacy. With 201 illustrations. [Philadelphia: Henry C. Lea, 1879.]

CHEMISTRY: GENERAL, MEDICAL AND PHARMACEUTICAL. Including the chemistry of the U. S. Pharmacopœia. A manual of the general principles of the science, and their applications in medicine and Pharmacy. By JOHN ATTFIELD, M. A. and Ph. D., of the University of Tübinger; Member of the Councils of the Institute of Chemistry of Great Britain and Ireland, and (lately) of the Chemical Society of London; Professor of Practical Chemistry to the Pharmaceutical Society of Great Britain, etc.

RHYMES OF SCIENCE: WISE AND OTHERWISE. With illustrations. [New York: Industrial Publication Company, 1879.]

The Treatment of Epithelioma of the Cervix Uteri. By J. Marion Sims, M. D. [Reprinted from the *American Journal of Obstetrics*, Vol. XII, No. 3, July, 1879.] New York: William Wood & Co., 1879. From the author.

DISEASES OF THE THROAT AND NASAL PASSAGES. A guide to the diagnosis and treatment of affections of the Pharynx, Æsophagus, Trachea, Larynx and Nares. By J. SOLIS COHEN, M. D., Lecturer on Laryngoscopy and Diseases of the Throat and Chest, in Jefferson Medical College, Philadelphia; late Mütter Lecturer before the College of Physicians, Philadelphia, etc. Second edition, revised and amended, with 208 illustrations. 800 pp. [New York: William Wood & Co. 1879.]

THE PATHOLOGICAL ANATOMY OF THE EAR. By HERMANN SCHWARTZE, M. D., Professor in the University of Halle. With the author's revisions and additions, and with the original illustrations. Translated by J. ORNE GREEN, A. M., M. D., Aural Surgeon, Boston City Hospital; Clinical Instructor in Otology in Harvard University. [Boston: Houghton, Osgood & Co. 1879.]

ESSAYS IN SURGICAL ANATOMY AND SURGERY. An Essay upon the Surgical Anatomy, and History of the Common External and Internal Carotid Arteries. Awarded the first prize of the American Med. Association, June, 1878.

An Essay upon the Surgical Anatomy and History of the Innominate and Subclavian Arteries. Awarded the second prize of the American Med. Association, June, 1878.

An Essay upon the Surgical Anatomy of the Tibio-Tarsal region. Awarded the (Jas. R. Wood) Annual Prize of the Alumni Association of the Bellevue Hospital Med. College, 1876.

An Essay upon the Surgical Anatomy of the Obturator Artery and Notes upon the Surgical Anatomy of the Hip-Joint. By JOHN A. WYETH, M. D. pp. 262. 8vo. [New York: Wm. Wood & Co., 27 Great Jones St. 1879.

PRACTICAL GYNÆCOLOGY. A HANDBOOK OF THE DISEASES OF WOMEN. By HEYWOOD SMITH, M. A., M. D., Oxon. Member of

the Royal College of Physicians, Physician to the British Lying in. With Illustrations, 16 mo., pp. 205. [Philada.: Lindsay and Blakiston. 1879.]

THE CELL DOCTRINE. Its History and Present State; for the Use of Students in Medicine and Dentistry. Also a copious bibliography of the subject. By JAMES TYSON, M. D., Professor of General Pathology and Morbid Anatomy in the University of Pennsylvania, one of the Vice-Presidents of the Pathological Society of Philadelphia, etc. Second Edition, Revised, Corrected and Enlarged. Illustrated. [Philadelphia: Lindsay & Blakiston, 1879.] For sale by Hugh R. Hildreth Publishing Co. St. Louis, Mo.

AN INTRODUCTION TO PATHOLOGY AND MORBID ANATOMY. By T. HENRY GREEN, M. D., Lond., Fellow of the Royal College of Physicians, Lond., Physician to Charing Cross Hospital, etc. Third American, from the Fourth Revised and Enlarged English Edition. With one hundred and thirty-two Illustrations. [Philadelphia: Henry C. Lea. 1879.]

LECTURES ON ELECTRICITY in its Relations to Medicine and Surgery. By A. D. ROCKWELL, A. M., M. D., Electro Therapeutist to the New York State Woman's Hospital, Member of the American Neurological Association, etc. pp. 99, 8 vo. [New York: Wm. Wood & Co. 1879.]

POCKET THERAPEUTICS AND DOSE BOOK. With Classification and Explanation of the Actions of Medicines, Min. and Max. doses in Troy weights with their equivalents in the Metric weights; Index and Definition of Diseases with appropriate Remedies; Genitive Endings of all Medicines and Preparations given in Italics; Index of Common and Pharmaceutical names; Classification of Symptoms; Poisons and their Antidotes; Useful Hints to the Prescriber. By MORSE STEWART, Jr., B. A., M. D.

PRICE, { Handsomely bound in Cloth.....$1.00
" " " Morocco..... 1.30

Second Edition, Revised and Enlarged. [Detroit, Mich.: Geo. D. Stewart, 1879.]

LESSONS IN GYNÆCOLOGY. By WILLIAM GOODELL, A. M., M. D., Physician-in-charge of the Preston Retreat; Professor of Clinical Gynæcology in the University of Pennsylvania, etc. [For sale by Hugh R. Hildreth Publishing Co., St. Louis, Mo.]

TRANSACTIONS OF THE PATHOLOGICAL SOCIETY OF PHILADELPHIA. Volume Eighth, Containing the Report of the Proceedings from September, 1877, to July, 1878. Edited by J. HENRY C. SIMES, M. D., Lecturer on Histology in the University of Pennsylvania; Recorder of the Society. [Philadelphia: Printed for the Society by J. B. Lippincott & Co. 1879.]

CLINICAL TREATISE ON THE DISEASES OF THE NERVOUS SYSTEM. By M. ROSENTHAL, Professor of Diseases of the Nervous System at Vienna, with a preface by Professor Charcot. Translated from the Author's Revised and Enlarged Edition, by L. PUTZEL, M. D., Physician to the Class for Nervous Diseases, Bellevue Hospital, Out Door Department, and Pathologist to the Lunatic Asylum, B. I. [New York: William Wood & Co. 1879.]

POSOLOGICAL TABLE, including all the officinal and the most frequently employed unofficinal preparations. By CHARLES RICE, Chemist, Department of Public Charities and Correction, etc., N. Y. Revised and Approved by Members of the Medical Boards of Bellevue and Charity Hospitals. [New York: William Wood & Co. 1879.]

Obituary.

THOS. C. KENNARD, M. D., OF KENT COUNTY, MARYLAND.

Dr. Thos. C. Kennard, son of Isaac and Catherine Kennard, was born near Baltimore on Sept. 14th, 1802.

After receiving a good preliminary education, he studied medicine in Baltimore and graduated at the University of Maryland in the spring of 1822. Soon afterwards, he commenced the practice of his profession in Kent County, Maryland, on the Eastern Shore, where he resided until the day of his death, February 25th, 1879. For more than twenty-five years he enjoyed a very lucrative practice, which, combined with a good income from his fine farms, enabled him to retire from his profession when about fifty years of age and to devote the balance of his life to agricultural pursuits, in which he took so much pleasure. He was a man of great mind, indomitable will and unflinching courage; one who had few superiors mentally; was a leader in everything that he undertook and was universally admired and respected by all who knew him well. He was a delegate to the American Medical Association about 1852 and a permanent member for several years afterwards, and never lost interest in his profession. His domestic life was a happy one. He married Jane E. Hanson, a native of Kent County, Maryland, on May 22d, 1827, who was a kind and affectionate wife, and with whom he lived for nearly *fifty-two years* on the same farm where she was born and where she still resides. They had thirteen children, six of whom are still living, viz., Dr. Thos. Kennard, of St. Louis, Judge John H. Kennard, of New Orleans, Henry C. Kennard, Esq., of Baltimore, their youngest son, and two daughters, who still reside at the old homestead, Elmwood, Kent Co., Md.

THE BRITISH MEDICAL ASSOCIATION.[1]

The forty-seventh meeting of the British Medical Association commenced Aug. 5th, at 3 o'clock P. M., in the examination hall at the Queen's College, Cork, Ireland, and was attended by a large number of the profession from almost every part of Ireland, England and Scotland, as well as by several of the most distinguished medical men from European countries and from this country. The college grounds were most unreservedly and generously thrown open to the public during the visit of this Association, which terminated on the following Saturday.

Notwithstanding that the weather on the opening day was not all that might have been desired, the attendance at the college was extremely large, and a lively interest was taken in the different museums.

Dr. Falconer, of Bath, President of the Association, occupied the chair. The hall was filled and the galleries contained a large number of students. The minutes of the last annual extraordinary meeting held at Bath were read by the Secretary of the Association. The President of the Association then addressed the meeting, saying that his Presidency was rapidly drawing to a close and that he would soon give up the Chair to the President-elect, Dr. D. C. O'Conner, of Cork. He made a few appropriate remarks, which were received with applause, at the end of which Dr. O'Conner took the chair as President of the Association for the ensuing year. Dr. Sullivan, President of the college, then said: "Your Association has met for the first time in one of the Colleges of the Queen's University. [Applause] By the statutes of the university, it cannot hold its meetings outside of Dublin, for we should have had a meeting of the Senate to perform the duty which I can only announce in part to you now, but the Senate cannot allow this opportunity to pass without showing its esteem and appreciation of the work of this Association and their Graces have passed that which I beg to communicate to you, in order to show how we appreciate your work, to confer the honorary degree of M. D. ou your out-going President and your incoming President. [Applause.]

Dr. Waters offered a resolution of thanks to be given to Dr. R. A. W. Falconer, for the able and courteous manner in which he had discharged his duty of President during the past year.

Dr. Carpenter, with a few appropriate remarks, seconded this resolution. It was passed amid applause.

Dr. Carpenter said he wanted to read a list of distinguished foreigners who were present. These gentlemen were not

1. We are indebted to Dr. J. T. Hodgen for the above. In our next issue we will give a fair synopsis of the proceedings.

members of the Association, but he wished to announce that during their stay they would be honorary members of the Association, viz, Drs. G. M. Beard, Seguin, Gray and Sayre of New York City; Drs. Laurence Turnbull and Da Costa of Philadelphia; Dr. A. B. Palmer, of Ann Arbor; Drs. Jno. T. Hodgen, of St. Louis, and Yandell, of Louisville.

The President then delivered an address, which was listened to with much interest throughout and frequently and warmly applauded.

Dr. Carpenter then read the annual report of the council in which was mentioned the death of Dr. Murchison, F. R. S., Dr. Tilbury Fox, who was appointed Chairman of the sub-section of Dermatology of this meeting, Mr. H Stubbs, consulting surgeon to the Liverpool Infirmary, Drs. A. B. Steele and Vose of Liverpool, Dr. C. Radcliff Hall of Torquay; the latter two the oldest Vice Presidents of the Association.

The reception by the President of the Association and local reception committee took place the following evening at the Queen's College.

There were about 2,000 visitors present, including all the city and county officials, and one of the members of the Association was justified in saying that he was "Amazed at the prettiness of the Cork ladies."

There were two military bands in attendance their musical programmes were very choice. The college grounds were illuminated with an electric light, which had the effect of almost changing night into day.

SECOND GENERAL MEETING.

The Association met at 11 A. M. on the 6th, in examination hall. President O'Conner occupied the chair. Dr. Carpenter, President of the Council, give the names of the gentlemen who had been nominated for the Committee of Councils for the ensuing year. He then proposed that Cambridge be the place for the meeting of the Association for 1880, and that Prof. Humphrey be appointed President. [Applause.]

Mr. Husbands said it would give him great pleasure to second the resolution, which he did, and it was passed unanimously.

Dr. Alfred Hudson, Reguis Prof. of Physics in the University of Dublin, then read an address on medicine, which was received with applause, and a vote of thanks given to him.

THIRD GENERAL MEETING.

The third meeting was held at 10 A. M., on the 7th inst, in the same Hall. At this meeting Dr. Carpenter, President of the Council, said he had the honor of reading to the meeting a copy of a resolution passed by the Committee of Council, which related to the presentation of a gold medal to Surgeon Major Reynolds, for extraordinary professional service in Zululand, Africa.

METEOROLOGICAL OBSERVATIONS.

By A. WISLIZENUS, M. D.

The following observations of daily temperature in St. Louis are made with a MAXIMUM and MINIMUM thermometer (of Green, N. Y.). The daily minimun occurs generally in night, the maximum at p. m. The monthly mean of the daily minima and maxima added and divided by two, gives quite a reliable mean of the monthly temperature.

THERMOMETER, FAHRENHEIT—JULY, 1879.

Day of Month.	Minimum.	Maximum.	Day of Month	Minimum.	Maximum.
1	69.0	86.5	18	**65.0**	80.0
2	72.0	92.5	19	66.0	87.0
3	72.0	92.0	20	71.5	89.0
4	70.5	91.0	21	76.5	90.0
5	70.5	87.5	22	73.0	89.5
6	75.0	93.5	23	78 0	86.0
7	78.0	94.5	24	72.5	83.0
8	80.0	97.0	25	72 0	87.0
9	79.0	98.0	26	72.5	88.5
10	80.5	100.0	27	70.5	80.0
11	80.5	**101.5**	28	68.0	87.5
12	82.0	96.0	29	69.5	88.0
13	76.0	93.0	30	70.0	86.5
14	75.0	94.5	31	67.0	90.0
15	75.0	98.0			
16	80.5	97.5	Means	73.4	84.0
17	68.5	78.0	Monthly Mean	78.7	

Quantity of rainfall, 2.13 inches.

MORTALITY REPORT.---CITY OF ST. LOUIS.

FROM JUNE 15, 1879, TO JULY 19, 1879, INCLUSIVE.

Septicæmia..... 3	Cholera Infantum 202	Hydrocephalus &	Apoplexy 9
Measles 8	Inanition, Want of	Tubercular Men-	Cyanosis and At-
Syphilis 2	Breast Milk, etc. 25	ingitis..... 11	electasis..... 4
Scarlatina..... 2	Alcoholism..... 4	Meningitis and	Premature & Pre-
Pyæmia 5	Rheumatism and	Encephalitis 41	ternatural Birth. 19
Erysipelas..... 4	Gout..... 3	Other Diseases of	Surgical Operat'ns 1
Diphtheria 2	Cancer 11	the Brain and	Deaths by Suicide 9
Membranous Croup	Phthisis Pulmon..68	Nervous System 41	Deaths by Accid't 29
Whooping Cough. 7	Bronchitis 8	Cirrhosis of Liver	
Atheromatosis Ater 1	Senility..... 20	and Hepatitis...22	Total Deaths from
Effects of Solar Heat 9	Pneumonia..... 11	Enteritis, Gastro-	all Causes.....851
Typhoid Fever.... 8	Heart Diseases...23	Enteritis, Peri-	Total Zymotic Dis-
Cerebro Spinal Fe. 4	Other Diseases of	tonitis, and Gas-	eases 334
Remittent, Inter-	Respir'y Organs 12	tritis 20	Total Constitution-
mittent, Typho-	Entro-Colitis.....	Bright's Disease	al Diseases.....140
Malarial, Con-	Marasmus—Tabes	and Nephritis... 6	Total Local Dis-
gestive & Simple	Mesenterica and	Other Diseases of	eases 294
Contin'd Fevers, 32	Scrofula 44	Urinary Organs. 2	Total Develop'tal
Puerperal Disea's 1	Convulsions.....86	Recto-Pharyngeal	Diseases 43
Diarrhœal " 28	Aneurism 3	Abscess	Deaths by Viol'ce 40

CHAS. W. FRANCIS, *Health Commissioner.*

THE

SAINT LOUIS

MEDICAL AND SURGICAL

Journal.

VOL. XXXVII——SEPTEMBER, 1879——No. 3.

Original Contributions.

ARTICLE IV.

SYPHILIS OF THE LARYNX. By MORELL MACKENZIE, M. D., Lond. Physician to the Hospital for Diseases of the Throat and Chest (London), and Lecturer on Diseases of the Throat at the London Hospital Medical College.

The frequency of syphilis of the larynx, the variety of its phenomena, the dangers of its later manifestations, and its tractable character when early recognized and suitably treated, alike contribute to interest both the specialist and the general practitioner. From the comprehensive character of the disease, even at the risk of appearing pedantic, I think it better to treat the subject systematically, and with but this introduction I will at once briefly set forth the result of my experience during the last twenty years.

Etiology.—The precise causes which predispose the larynx to an attack of syphilis are not clear; but in many cases the disease is probably attracted to the part through local weakness, either hereditary or acquired. The season of the year has a marked

influence in causing the outbreak to take place in the laryngeal mucous membrane in the early stages, and to a less extent later on. Thus out of 118 cases of secondary syphilis, of which I have notes, 79 commenced between September 1st, and March 31st, and only 37 between April 1st and August 31st, whilst out of 110 cases of tertiary syphilis, 66 commenced in the six winter months and 44 in the summer months.

With respect to the frequency with which syphilis affects the larynx as compared with other parts, the statistics of Willigk[1] show that out of 218 cases of syphilis in the dead subject, in 15.1 per cent, there was disease of the larynx, in 10.1 per cent, the pharynx was affected, whilst the nose suffered in 2.8 per cent. Other observations give a somewhat different result. Out of 521 cases Engelsted[2] found the larynx affected only twenty-five times. In 1,000 syphilitic patients Lewin[3] diagnosed a laryngeal affection in 44. These figures are thus widely discrepant and do not give any definite reply to the question at issue. In 10,000 consecutive cases of throat disease examined at the Throat Hospital, I found 308 cases of laryngeal syphilis as compared with 834 in which the pharynx was affected. (See Table A.)

Table A.

Showing the number of cases of syphilis in 10,000 cases of throat diseases seen at the Hospital for Diseases of the Throat,

Pharynx	Primary—	Males	0		
		Females...	1		
			—	1	
	Secondary—	Males	348		
		Females...	143		
			—	491	
	Tertiary—	Males	176		
		Females	163		
			—	339	
	Hereditary—	Males	2		
		Females...	1		
			—	3	
				—	834
Larynx	Secondary—	Males	84		
		Females...	34		
			—	118	
	Tertiary—	Males	120		
		Females.., ...	69		
			—	189	
	Hereditary—	Males	1		
		Females...	0		
			—	1	
				—	308

1. "Prager Vierteljahrschrift," xxiii. 2, p. 20, 1856,
2. Virchow and Hirch's "Jahresbericht," Bd. ii. 1868, p. 585.
3. "Die Behandlung der Syphilis," Berlin, 1869.

Table A—continued.

Trachea	Tertiary—	Males	2			
		Females.., ...	1			
			—	3		
				—	3	
					1145	

With respect to age, most cases of laryngeal syphilis occur between twenty and forty, as will be seen on reference to Table B.

Table B.

Showing ages of patients affected with LARYNGEAL SYPHILIS.

MALES.

Secondary.		Tertiary.
0	under 15	0
9	15 to 20	0
41	20 to 30	15
22	30 to 40	54
9	40 to 50	33
2	50 to 60	11
1	60 to 70	6
0	70 to 80	1
84		120

FEMALES.

Secondary.		Tertiary.
2	under 15	0
10	15 to 20	3
15	20 to 30	17
4	30 to 40	29
2	40 to 50	15
1	50 to 60	2
—	60 to 70	3
34		69

Again, as regards the kind of syphilis most frequently met with in the larynx, Table A shows that tertiary phenomena are more common than secondary, being in the proportion of eighteen to eleven. From this it would appear that the larynx is most liable to be affected in patients in whom the constitutional malady has been of long standing. My colleague, Dr Whistler,[1] has, however, had a different experience, for out of 170 cases of laryngeal syphilis, eighty-eight corresponded to the secondary, and eighty-two to the tertiary stage.

Symptoms—The phenomena of laryngeal syphilis vary in different cases and in different stages, from the mildest to the most severe. Thus the patient may suffer merely from a slight inclination to clear the throat, or there may be extreme dyspnœa, advancing ultimately to such urgent suffocative attacks, as to re-

1. "Med. Times and Gazette," Sept. 28, 1878.

quire tracheotomy. Cough is occasionally present in the early manifestations, but rare in the later stages. The vocal function is generally impaired, and whilst at the commencement of the attack there is often only slight hoarseness, yet this may ultimately pass into complete aphonia. There may be no odynphagia at first, but at a later period swallowing in some cases becomes almost impossible. The absence of pain, when the patient is not swallowing, is very characteristic.

The pathological effects of syphilis in the larynx are extremely manifold, and comprise every kind of lesion that can be produced in the part, from a mere erythematous blush of the mucous membrane to great thickening, destructive ulceration, perichondritis, and necrosis of the laryngeal cartilages.

In *secondary syphilis*, condylomata are the most characteristic condition, but chronic hyperæmia (without mucous tubercles) and superficial ulcerations are often met with. As will be seen by reference to Table C, I met with 44 cases of condyloma among 118 patients suffering from the early symptoms of laryngeal syphilis; whilst among 88 patients, in the same stage Dr. Whistler[1] saw 24 cases among 88 patients. On the other hand, Dr. Ferras[2] only found a single example in a hundred patients. Isambert[3] does not consider that there is such a phenomenon as laryngeal condyloma, and both Waldenburg[4] and Lewin[5] hesitate as to whether the characteristic mucous tubercles of syphilis are ever found in the larynx, being inclined to relegate the neoplasms usually described as such to the class of gummata. Again, whilst Gerhardt and Roth[6] found condylomata in 18 instances out of 56 patients suffering from constitutional syphilis, in a series of examinations at the Lock Hospital, I observed condylomata only twice among 52 patients. These wide discrepancies may perhaps be accounted for in a measure by the different period of the year at which the observations were undertaken, some having been made in the summer and some in the winter, but they are in part to be explained by the fleeting character of laryngeal condylomata, and by the different appearance which condylomata present in the larynx as compared with the pharynx—a difference which renders them likely to be overlooked. In the larynx they generally appear as smooth yellow projections, sometimes round, but more often oval, varying in diameter from three to seven millimetres, but in rare cases attaining a breadth of a centimetre. They are seldom so white as in the larynx, and the surrounding mucous membrane is not generally so congested. Moreover,

1. Ibid.
2. "Thèse de Paris," 1872.
3. "Annales des Maladies de l'oreille," etc. T. ii. p. 239.
4. "Respiratorische Therapie," II. Aufl. 1872, p, 366.
5. Loc. cit. p. 113.
6. Virchow's "Archiv." Bd. xxxi. 1861, Hft. 1. § 7.

they are less disposed to superficial ulceration, and they generally disappear quickly—even without treatment. The epiglottis and the inter-arytenoid commissure are the parts which I have most frequently found affected, but I have occasionally seen condylomata on the vocal cords.

Superficial ulcerations of limited extent are, as already remarked, occasionally met with. They generally occur from six to twelve months after the primary infection, and heal after a few weeks' treatment.

In secondary syphilis, we also sometimes meet with very obstinate congestion of the laryngeal mucous membrane, but it is often impossible to tell whether this condition is really due to the syphilitic dyscrasia. I found marked congestion in 51 out of 118 cases of secondary syphilis. In every one of these 51 cases there were at the same time other well marked symptoms of constitutional syphilis—in 24 condylomata in the pharynx. As I pointed out long ago[1] there is nothing characteristic about the congestion of syphilis, and I never consider a congestion syphiltic unless there are other well marked evidences of the disease. Even then the laryngeal hyperæmia is often the result of accidental catarrh, and in no sense due to the syphilis. On the other hand, M. Dance[2] has gone so far as to describe roseolar, papular, and tubercular eruptions of the laryngeal mucous membrane, corresponding to similar manifestations on the skin. I have never been able to verify these observations, nor have they been confirmed by other physicians.

Table C.

Showing the particular conditions observed in syphilis of larynx.

SECONDARY.

	Congestion.	Condylomata.	Ulceration.	Totals.
Males	35	33	16	84
Females	16	11	7	34
	51[1]	44	23	118[2]

TERTIARY.

	Superficial Ulceration with Laryngitis.	Deep and Extensive Ulceration.	Contraction.	Gummata.	Totals.
Males	27	65	22	4	120
Females.....	21	42	5	1	69
	48	107	37	5	189[3]

1. Russell Reynolds' "Symptom of Medicine," vol. iii. p. 465.
2. "Thèse de Paris," 1868.

1. In 17 of these cases there was at the same time congestion of the trachea, and in 24 condylomata in the pharynx.
2. In 81 of these cases there was at the same time secondary disease of the pharynx.
3. Amongst these 189 cases, there were 7 of acute œdema, and 32 of chronic œdema.

In *tertiary syphilis* the phenomena met with are ulceration, gummata, and cicatricial stenosis. The earliest, but not most frequent symptom, is obstinate *superficial* ulceration, accompanied by considerable hyperæmia of the mucous membrane. Dr. Whistler[1] has well described this condition, under the name of "relapsing ulcerative laryngitis." When these superficial ulcers occur within a year of the primary affection, I have been in the habit of classifying them under the head of secondary syphilis, though this is a mere arbitrary distinction. But when they appear three or four years after inoculation, they may fairly be regarded as tertiary. I have met with one instance of this affection in a patient who had been successfully treated fifteen years previously at Aix-la-Chapelle. The ulceration generally attacks the vocal cords, but I have frequently seen the inter-arytenoid fold and occasionally the ventricular bands affected.

Deep and destructive ulceration is, however, the characteristic morbid condition of the later stages of laryngeal syphilis. The ulcers may form three or four years after inoculation, but they sometimes occur twenty, thirty, forty, and even fifty years after the date of infection without the occurrence of intermediate symptoms, and when, indeed the primary cause may have even been altogether forgotten. Their effect is to produce great loss of substance, and the consequent changes in the form of the epiglottis and other parts of the larynx are very remarkable. The ulcers may form in any region of the larynx, but the epiglottis is the part most frequently affected—one of the most common conditions consisting of general thickening of the valve, with ulceration of the central portion or lateral edge. The upper surface is more often attacked than the under surface. Under these circumstances great dysphagia is usually experienced, but when the ulcers are healed, swallowing can generally be effected without trouble, even though nearly the whole of the valve is destroyed. When the walls of the pharynx are also ulcerated, there is danger of the edges of the epiglottis uniting with them. This condition gives rise to one of the most dangerous forms of dysphagia, as well as to serious dyspnœa. The ulcerative process frequently destroys the mucous and sub-mucous tissues to a very considerable extent, and sometimes attacks the muscles, perichondrium, and cartilage. It is often associated with œdema, and is also not unfrequently followed by the formation of false excrescences, which are most apt to occur on the inter-arytenoid fold and the anterior surface of the posterior wall of the larynx, but are occasionally seen on the vocal cords.

In these advanced stages syphilitic gummata are occasionally, though very rarely, formed in the sub-mucous tissue and muscles of the larynx. They usually appear as round, smooth elevations, generally of the same color as the rest of the mucous

1 "Med. Times and Gazette," 1878, No. 1480, 1484.

membrane, but sometimes of a yellow tint. They are most frequently found on the anterior surface of the posterior wall of the larynx, and generally in groups. Mandl[1] mentions the case of a negro suffering from severe pharyngeal syphilis, in whom numerous gummata, of a grayish-yellow color, could be seen on the epiglottis and ventricular bands; and Norton[2] has described and figured a remarkable case, in which suffocation resulted from a gummata, the size of a pigeon egg, in the right ary-epiglottic fold. The ulceration which results from gummata is of the deepest and most destructive kind, and often penetrates to the perichondrium.

Even when the ulcerative process is arrested, however, the danger does not cease, for the cicatrices often undergo such a degree of contraction as to greatly lessen the calibre of the larynx. Indeed, the stenosis which so often results from tertiary ulceration is one of the greatest dangers of the disease. Sometimes the narrowing of the passage is caused by a web between the vocal cords, and no less than six cases of this sequelæ laryngeal syphilis have been reported by Dr. Elsberg[3] of New York. In these cases there is generally complete aphonia. Sometimes the crico-arytenoid articulation is enlarged and the joint stiff, and thus the vocal cord may be permanently fixed in the median line, at the side of the larynx, or at some intermediate position. Sometimes the cicatricial process produces the most curious and irregular distortions and outgrowths; indeed, so much is this the case, that it is occasionally almost impossible to identify the various parts.

Hereditary syphilis is occasionally met with in children, though I have never seen a case in a child younger than eleven years. In each of the five examples I have met with there was ulceration of the edge of the epiglottis, with exposure of the cartilage. The only instance of the disease occurring in an *infant* that I am acquainted with, is that observed by Isidor Frankl.[4] The subject was an infant, who was attacked with coryza two months after birth, and died from acute stenosis of the larynx in about three weeks. On post-mortem examination necrosis of the cricoid and left arytenoid cartilage was found and syphilitic disease of the liver.[5] Rauchfuss[6] mentions that, in the "Post-Mortem Records of the St. Petersburg and Moscow Foundling Hospital" there are a few cases of deep ulceration and perichondritis in infants of from two to three months old.

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1. "Maladies du Larynx," p. 700. Paris, 1872.
2. "Affections of the Larynx," p. 86, London, 1875.
3. "Syphilitic Membranoid Occlusion of the Rima Glottidis," New York, 1874.
4. Wiener Mediz Wochenschrift." Nos. 69 and 70, 1868.
5. A somewhat similar case is mentioned by Rollet, "Dict. des Sc. Med." Art. "Larynx." p. 693.
6. "Die Kranheiten des Kehlkopfes und der Luftröhre im Kindesalter." Tübingen, 1879, p. 210.

Pathology.—The anatomical changes which the laryngeal structure undergo in syphilis have been investigated by Virchow,[1] who describes the phenomena with considerable detail. The general pathological features, however, have been so much touched upon in dealing with the laryngoscopic appearances that it is only necessary to make a few remarks in this place. Condylomata are the result of a hyperplasia of the epithelium of the mucous membrane, generally attended with copious cell proliferation. They show little disposition to ulceration, except of the most superficial character, and generally disappear by a process of molecular absorption. The ulcers which form so quickly in tertiary syphilis, result from a low form of inflammation which rapidly leads to liquefaction of tissue. Gummata are developed in the same way as in other organs, but they are very rare.

Diagnosis.—Syphilitic diseases of the larynx can generally be recognized without difficulty, either by the general features of the case or by the laryngoscopic appearances. A few cases may be doubtful at first, but simple hyperæmia is almost the only condition in which the judgment need remain long suspended. In the absence of other symptoms, it is impossible to tell whether a congestion is a simple catarrhal phenomenon, the outcome of syphilis, or the precursor of phthisis. In the early superficial ulcerations, the practitioner may likewise hesitate for a time between catarrh and syphilis, but the progress of the case soon demonstrates its nature.

The ulcers of tertiary syphilis may generally be easily distinguished from cancer and phthisis—the only affections in which error may occur through want of care.

In *syphilis* the development of the ulcer is acute, often occupying a few days only. There is generally considerable irregular swelling of a decidedly inflammatory—often œdematous—character. When the epiglottis is attacked, the upper surface is the most frequent site of the disease. Above all it should be observed that the ulcer is most frequently solitary and hence (except in the case of the epiglottis when it is often central) generally unilateral, and that there are scarcely ever more than two separate ulcers. These ulcers are rather deep, irregular, round or oval in shape, and commonly have a diameter of a centimetre to a centimetre and a half.

In *phthisis* the development of the ulcers is slow, generally only occurring after the throat symptoms have existed for several months. They are nearly always preceded by swelling of the mucous membrane, which is of a somewhat uniform character, partaking of the appearance of an infiltration, and extremely pale. The pallor of the mucous membrane is, indeed, a very characteristic condition. When the epiglottis is attacked it is

1 "Die Krankhaften, Geschwülste," Bd. ii. Part 2, p. 413.

the under surface which usually suffers; the ulcers are almost always numerous and bilateral; they are generally round and seldom more than two or three millimetres in diameter, except where the coalescence of several ulcers has produced a large breach, in which case they may attain the diameter of half a centimetre or more. In cases in which syphilis attacks phthisical patients the local symptoms are sometimes very obscure, and the diagnosis may be very difficult.

In *cancer*, the development of the ulcer is intermediate as regards time between syphilis and phthisis, generally occupying a few weeks. As a rule the ulcer is preceded by the development of a growth, and there are nearly always nodular excrescences upon or around the ulcer. The neighboring mucous membrane is generally acutely inflamed. The ulcers are solitary, of irregular shape, and often attain a diameter of two or three centimetres.

Although the experienced laryngologist can at once feel sure that certain ulcers are syphilitic, yet cases occasionally occur in which it is impossible to arrive at a decision with the laryngeal mirror alone. The diagnosis, under such circumstances, must be arrived at by attention to the history of the case, and by a consideration of the concomitant phenomena, such as the state of the pharynx, the skin, the lungs, and the general appearance of the patient. Should any doubt remain, it must soon be cleared up by watching the efforts of treatment, syphilitic affections rapidly yielding, if only for a time, to appropriate treatment. As Krishaber[1] has pointed out, false excrescences resulting from syphilitic ulceration can generally be distinguished from true growths by the surrounding hyperæmia, which, as a rule, is altogether absent in the case of simple neoplasms.

Prognosis.—There are few cases of syphilis in which the prognosis, at least as regards life, can be said to be absolutely unfavorable. Under appropriate treatment the most destructive ulceration can generally be arrested, although frequently at the expense of a considerable loss of substance and great local deformity. Though stenosis may occur, in no class of cases are the immediate effects of tracheotomy so successful. It must be remembered, however, that where much ulceration of the vocal cords or necrosis of the cartilages has taken place, the voice must generally be looked upon as irrecoverably lost, whilst, if tracheotomy is called for, the patient will probably have to continue to wear the canula for life. The prognosis, as Krishaber[2] has pointed out, is unfavorable in proportion as the disease approaches the windpipe. The most dangerous cases, as has been shown by Dittrich,[3] Porter,[4] and others, are those in which there

1 "Annales des Maladies de l'Oreill'e," etc. September, 1878.
2 "Gaz. hebdom.," Nos. 45, 46, and 47. 1878.
3 "Prager Vierteljahrschrift," Bd. xxvii. 1850.
4 "Observations on the Surgical Pathology of the Larynx and Trachea." Cases 28 and 29.

is perichondritis of the cricoid and thyroid cartilages. Under these circumstances a fatal issue may ensue from acute œdema or from extensive suppuration of the surrounding soft parts. A rare instance is mentioned by Türck,[1] in which fatal hemorrhage took place from a large and deep ulcer of the left vocal cord.

Treatment.—Secondary syphilitic affections of the larynx do not usually require any constitutional treatment.

Under the use of local remedies the symptoms rapidly disappear and I have rarely met with tertiary phenomena in the throat amongst those whom I have previously treated for the earlier manifestations. Hence it is probable that the non-use of mercury does not increase the risk of a further development of of the disease. Should the early phenomena of constitutional syphilis, however prove intractable, mercury may be administered. Under these circumstances I generally give it in the form of cyanide of mercury. The resolution of erythema may be hastened by painting the part with a solution of chloride of zinc (gr. xx. ad. ℥i.) and mucous patches are best treated by local applications of tincture of iodine.

In the tertiary stage of syphilis our chief resource is the internal administration of iodide of potassium. Under the specific influence of this drug foul ulcerations become clear and healthy, whilst local tumefactions and gummata are resolved and re-absorbed. It is best to begin with five grains, three times a day. The effect should be watched, and the dose may soon be increased with advantage to ten grains, three times in the twenty-four hours. Thirty grains a day is generally sufficient, but in some cases as much as ninety grains or even more may be given daily with advantage. In most cases it is advisable to continue the iodide of potassium for some time after all local phenomena have disappeared, whilst on the slightest sign of any new manifestation the drug should at once be resumed. In those cases where iodide of potassium appears to produce only a temporary effect and where recurrences are frequent, recourse may be had to the administration of small doses of cyanide of mercury. I have however seldom found mercury successful where iodide of potassium has failed. Locally, the treatment of tertiary syphilitic lesions of the larynx varies according to the phenomena present. Ulcerations, if indolent, are best treated with a solution of sulphate of copper (gr. 15 ad ℥i.) whilst if spreading, the progress of the sore can generally be checked with the solid nitrate of silver or acid nitrate of mercury.

The inhalation of an atomized solution of bichloride of mercury (1 in 1,000 or 500), first recommended by Demarquay and Schntzler, has received such strong testimony from Waldenburg[2]

1. Loc. cit. p, 413.
2. "Die locale Behandlung der Karkheiten der Athmungsorgane." Berlin, 1872, pp. 244 and 371.

and Massei[1] that there can be no doubt of its remarkable efficacy in obstinate syphilitic affections of the larynx. Severe cases of œdema generally yield to the free exhibition of iodide of potassium, but if there is much dyspnœa, scarification may be required, and if, in spite of this treatment, suffocation threatens, recourse must be had to tracheotomy. When a web forms in the larynx it can sometimes be taken away with cutting-forceps, but Dr. Whistler's "cutting dilator" has proved more serviceable to me in these cases. Electric cautery has been most successfully employed by Dr. Elsberg.[2] The success of any treatment, however, depends mainly on the density of the web; if it is thin, no trouble is experienced, but when the membranous formation is tough and thick, the curative treatment is seldom of any avail, and I have not found thyrotomy succeed where endo-laryngeal methods have failed. In cases of stenosis from cicatricial contraction or disease of the cartilages, the process of dilatation introduced by Professor Schrotter should be carried out.

PLAN OF A FOMITICIDE OR YELLOW FEVER DISINFECTING CAR FOR QUARANTINE PURPOSES. By C. H. HUGHES, M. D., of St. Louis.

It being conceded that cold is the natural destroyer of yellow fever and the most potent known agent that will render inoculous its virulent fomites, the only question in the minds of medical men, when confronted by an epidemic of yellow fever, is how to so employ the natural foe of the appalling scourge, as to stay its fearful ravages till kind and potent nature, unbidden, in her own time, comes and lays her icy hand with relentless and inextricable grasp upon the monster's throat.

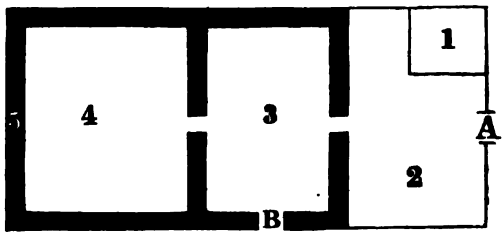
In the discussion in the Medical Society last year on the subject of yellow fever prophylaxis, it was not by any one denied that cold would kill its germs or *materies morbi*, but there were skeptics in that body who thought its destruction by the freezing process, impracticable during its prevalence.

We shall present but one aspect of the subject in this brief communication, viz: the practicability of disinfecting persons, letters, etc., that have been in contact with the yellow fever.

The following diagram represents the floor plan of a disinfecting car or portable building supposed to be placed on wheels. It is intended to occupy a place contiguous to isolated houses at

1. "Patologia e Terapia della Larigne." Milano, 1877.
2. Op. cit.

quarantine stations or elsewhere, where real or suspected cases of yellow fever are undergoing inspection or treatment, and in the vicinity of railroad depots just outside of infected districts:



A. Entrance. B. Exit. 1. Refrigerating box for cast-off clothing. 2. Disrobing room. 3. Cold dressing room in which the exposed person is dressed in clothing previously frozen in room 4. 4. Refrigerating room for previously deposited clothing. 5. Zinc-lined ice-walls of thickness sufficient to insure a temperature five degrees below zero.

The roof of the car is supplied with a raised latticed skylight which will admit sufficient light and allow of the escape of air. Small, open transoms over the doors A and B permit of the ingress of sufficient air for the purposes of all the ventilation needed for so brief a stay in the car.

In room 3 a heavy blanket previously frozen but perfectly dry, should be thrown over the person so soon as he enters and retained about him while dressing.

The practical working of this would be as follows:

Suppose first, the mails are ready to send away from Memphis. The postmaster there sends the bags to be deposited over night in room four (4) of the disinfecting car stationed at the depot or on the line of the railroad out of the plague limits. When the train departs they may either be taken out or the refrigerating car may be taken along with its contents.

2d. An exposed person wishes to leave Memphis. His procedure would be as follows: His trunk and apparel are deposited a day or two previous to his departure in room 4. On the day of his departure he enters room 2 of the disinfecting car stationed outside of the city, casts off his clothing into box No. 1, passes to No. 3 and secures from No. 4 the apparel he is to wear on his trip together with his trunk or satchel, passes out at B and enters the train, leaving the clothing deposited in No. 1 to be sent to him after having been duly frozen.

3d. A suspected boat or train is hailed and a real or suspected case of yellow fever is taken off at a quarantine station. If an undoubted case, he goes to the yellow fever hospital; if a doubtful case, he goes to one of a number of isolated houses which ought to be at every quarantine station, near which stands one of

these disinfecting cars. After the physician and nurses have seen him or her cared for properly, they pass through the disinfecting process in this car, before proceeding to visit or take in other doubtful cases.

4th. A disinfecting car stands close to the yellow fever hospital through which should pass all doctors, nurses and articles that are to come in contact with those who are unexposed.

The utility of this arrangement, under proper regulation, rigidly enforced, to reduce the liability of this disease to the minimum and give to communities contiguous to the plague a sense of security that they do not now possess, is too obvious to require further comment.

REMITTENT FEVER AS IT OCCURS IN SOUTHEAST MISSOURI. By W. N. GEO. ELDERS., M. D., of Cedar Hill, Mo.

The premonitory symptoms are generally short, and in some cases very slight. After two or three days of indisposition with some headache, slight nausea and furred tongue, the attack is ushered in by a chill, not violent, but lasting perhaps for an hour in rare cases, or an ill-defined cold stage, with only a feeling of chilliness, languor and debility, and in most cases cerebral oppression with gastric disorder occurs.

After this, the febrile condition is developed, the skin becomes hot and dry, the pulse rises in force and frequency, headache intense, the mental faculties being unfitted for any mental exercise; violent pain in lumbar region, pain or an aching sensation is also felt in the limbs; sometimes a soreness of the superficial muscular system is felt without much pain.

Gastric uneasiness is always present, nausea and vomiting in the majority of cases; the bowels are generally costive although in a small minority of cases diarrhœa will be present of a dysinteric character; urine scanty and high colored; thirst intense, cold drinks and especially lemonades are preferred. Respiration hurried although free; after a continuance of from eight to fourteen hours the symptoms abate more or less, even without treatment, to return however in from ten to sixteen hours with greater severity; the skin now assumes a yellowish hue, the tongue becomes heavily coated, of a yellowish color, and delirium is present in severe cases, which is always a grave symptom.

A repetition of these symptoms continue, gradually growing more severe in fatal cases until death ends the scene, but under appropriate treatment the symptoms grow better and complete cessation of the febrile symptoms may be expected by the fourth

day following the chill, or about seven days from the beginning of the attack.

Without a doubt, cases do recover without treatment, but I imagine the number are fewer than of some other diseases. A patient would no doubt more certainly recover from pneumonia without treatmont than from remittent fever, although under favorable surroundings and appropriate treatment recovery is the rule, death the exception.

The favorable signs are a prolongation of the remissions, a shorter duration of the febrile excitement, moistening and cleaning of the tongue, very dark and offensive stools, copious perspiration and an increased flow of urine, etc.

The unfavorable symptoms are delirium, indistinctness of the remissions with increased febrile exacerbations, dryness and even blackness of the tongue, retention of urine, still worse, suppression, a very frequent and weak pulse, hiccough, and an inclination to slip down to the foot of the bed, announce the victory of the morbific agent over the vital function; then poor, frail humanity generally succumbs.

As to the cause, all agree that it is a something that for the want of a better term we call malaria.

I will now give my method of treatment. On being called, after making a thorough examination of the patient, I open the doors and windows and thus allow the patient plenty of God's greatest gift, fresh air. Oftentimes I find it necessary to have my patient well washed and redressed in clean garments, as many are afraid to change the clothing when sick, for fear of catching cold.

One good attendant at a time is sufficient. After having made these necessary preparations, I give the following prescriptions:

℞, Hyd Sub. Chlor.....grs. xv.
Ipecac pulve.....gr, ss.
M. f. ch. No. iij.

One to be given every three hours, followed in six hours if the bowels do not move with sulph, magnesia. If nausea and vomiting are present I give in addition;

℞, Morphiae sulph.....gr. j.
Aqua.....℥ j.
M.

Teaspoonful every hour until the vomiting ceases; also apply a large mustard plaster over the region of stomach and liver. For the head trouble, nothing is so good as a frequent application of cold water, by pouring or by wet cloths kept constantly to the parts. Sponging the body and limbs frequently during the febrile excitement with cool water is very soothing to the patient, as well as very beneficial as a therapeutical agent.

The patient is to be allowed to drink cold water. If he should vomit it up let him drink again. Ice water is the best, but it is not often procurable in the country.

As soon as the remission occurs I give the following:

℞. Cinchonidiæ sulph.....grs. xxx.
Potassæ brom. pulv.....ʒ j.
Ipecac pulv.....gr. iij.
M. f. ch, No. x.

One every two hours during remission, to be discontinued as soon as febrile paroxysm returns. During the fever, if not high I give Sweet Spts. Niter. ʒ ij. Aquæ ʒ j. M. Teaspoonful every two hours, until the fever lowers; then, I give the cinchonidia prescription as before. If the fever should be high and the secretions locked up, I give the following in place of the niter:

℞. Hyd. sub. chlor.....grs. x.
Ipecac pulv.....gr. j.
M. f. ch. No. v.

One every two hours followed by sulph. magnesia in two hours if necessary. If the gastric trouble should return I apply a large cantharides plaster over the region of the liver and stomach, leaving it on six or eight hours. As soon as the surface is sufficiently blistered I remove plaster, but should nausea continue, I dust the ¼ grain of morphia over the blistered surface.

If the third paroxysm should occur I repeat the mercury as before, keeping up counter-irritation over the gastric region, following the exacerbation with the cinchonidia prescription and so on until the paroxysms are entirely broken up. Then for seven days I give the following as a tonic:

℞. Cinchonidiæ sulph.....ʒ j.
Feri. mur. tinct.....ʒ ij.
Aquæ.....ʒ iv.
M.

Teaspoonful three times a day. Such is an outline of the way I treat remittent fever. Complication requires some variation in this course. If diarrhœa should occur, I give opium pulv. in the prescriptions already named, but I think it better not to give opium if I can avoid it, as it tends to lock up all the secretions, which should be avoided. It also adds to the cerebral trouble, by its stimulating effects. I would never give stimulants of any kind during the fever, unless I see unmistakable evidence that my patient was sinking. I prohibit all acid drinks while patient is taking mercury, unless I wish salivation, and that should always be avoided if possible. There is another fashion (for such I must call it, as it certainly is not scientific) I find existing with country practitioners, that is, combining calomel and cinchonidia. I hold that they should never be given in the same prescription; it is a waste and an injury to the nervous system to give cincho-

nidia during the height of the fever. Calomel is one of the most reliable remedies we possess, to free the liver and internal organs of their engorged or congested condition, and our antiperiodic remedies will do no good until the local trouble is partially relieved by the calomel. This is in accordance with my experience. The salts of the peruvian bark never should be given in larger doses than *three grains* every two hours in remittents and then only during the remission. I use the sulphate cinchonidia altogether and find it equal to the sulphate of quinia in all malarious affections.

NATURE AND DEFINITION OF INSANITY.* By C. H. HUGHES, M. D., of St. Louis.

Not a century ago, a medical philosopher of France ventured to class the brain among the secreting organs of the body, and though he did not characterize thought as a secretion as tangible as that of the liver, the skin or the kidneys, he nevertheless regarded mind as the no less material product of the brain. As the stomach and intestines conduct the process of digestion, as the liver secretes bile and as the parotid, sub-maxillary and sub lingual glands secrete saliva, "so the brain," he concluded, "secretes thought."

This proposition, the philosophical and classical Maudsley considers "crude, inexact and misleading, though he himself regards mind as the highest development of force, to whose existence all the other natural forces are indispensably pre-requisite.

The talent and boldness of this learned and brilliant writer on the physiology and pathology of the mind, in seeking thus to cut the Gordian knot of psychical and physical phenomena, commands our admiration, but they have not yet been rewarded by a revelation of incontestable truth.

The essential nature of mind—whether it be an entity, presiding over and influenced by that highly complex mass of matter, the brain—a power, as Descartes conjectured, "which has come upon man from without," or a highly organized force evolved only by cerebral cell action, is the mooted question of the day, which I shall not discuss, since psycho-physiologists, as yet, so dimly discern the subject, that many of them, and among them the greatest thinkers and investigators of the age, are disposed to relegate it to the realms of the unknowable.

The simile of Cabannis is open to the objection that behind the hepatic, renal and gastric organs, is the blood, out of which

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* Delivered by invitation before the Southern Illinois Medical Association, at Sparta, Ills., on the evening of June 20th, 1879.

their respective secretions are formed; so behind the brain, many great minds still believe, there exists the intangible mind, forever to remain unknown save in its manifestations and in the display of its powers.

The Aristotelian doctrine of the omnipresence of mind in the whole organism has, within a few years, been with plausibility revived. Dr. Hammond extends it to the spinal cord, Dr. Bucke, of Canada, to the sympathetic nervous system, while Dr. Laws, of Columbia, Missouri, awakens from its long repose and adopts the whole doctrine of Aristotle, that "in relation to the body the soul is less contained than containing—that it is all in the whole and the whole in every part."

Mind has not, however, been yet driven from its main abiding place in the brain; though Dr. Richard Maurice Bucke has, with great ability, endeavored to establish that our moral nature resides in the great sympathetic.

Mental power, as we see it displayed, may be regarded as an organized result gradually built up and matured in the course of a life.

Mind, like the entire individual, has its periods of infancy and childhood, youth and manhood and old age. The brain, like the body in general, is incapacitated at birth for its highest functions. It grows with the latter's growth and strengthens, in the course of development, with its strength. Unlike the other organs of the body, it is not born equal to its highest functions, but like the centers of the spinal cord, it is perfected by education in the school of experience with external nature. Mind, like the body, has its stages, and is not the same in appearance at the sunrise, noontide and sunset of life.

This fact enables us to understand the idiocy of infancy and early life, the instinctive and impulsive insanities, especially of childhood and youth, before the reasoning powers have become, in the course of nature, developed, and to appreciate the necessary difference between them and the morbid mental displays of middle and advanced age, when the reasoning and moral faculties are full grown or waning.

The different epochs usually give different manifestations of mental disorder, though sometimes insane, like *sane* persons, display intellectual precocity. The affective, instinctive and emotional insanities belong especially to early life, the intellectual to middle and the dementias to old age.

The physical condition of the brain and its allied nervous system, undoubtedly governs the display of mind, whatever may be the real nature of the latter.

Molecular action and disintegration or retrograde metamorphosis of structure and tissue change, are undoubtedly essential conditions of organic activity, physiological as well as pathological, and apply alike to the nervous structure and its higher centers concerned in cerebration or the generation of

thought, emotion and will, as to the centers of the cord and the processes of muscular, glandular and vascular structure and function.

Thus we have a correct conception of the definite relationship which mind invariably sustains to that "highly complex organism"—the brain and nervous system—through which alone all psychical states, whether morbid or healthy, natural or unnatural, are revealed. As the ganglion cells of the spinal cord develop a nervous force mainly concerned in the movements of the organic and involuntary life of the individual, so the cells of the brain develop a higher nerve force, which we may term a "*mental force*," whose special function is the manifestation of mind, because the preliminary generation of a certain nerve force is the indispensable condition prerequisite to the manifestation of all psychical states.

To avoid needless argument at this point, we may concede the possible existence, as has been maintained by some, of a difference between psychical and physical tone, though upon the physical tone of the brain and physical system undoubtedly depends the manifestation of mind.

Fortunately for practical medicine, in connection with mental disease, it is immaterial whether in accordance with the teachings of holy writ and the attestation of the general consciousness or instinctive sense of mankind, we believe "there is a spirit in man," or whether we regard mind solely as an attribute or force of matter, it is, to our mind, a fact above and beyond disproof, that the mind, whatever be its real nature, is dependent for its every manifestation upon the brain and nervous system.

Recognizing the brain then, as the especial organ of the mind in diseased or disordered as well as in healthy or natural action, we are prepared for a definition of insanity on the basis of disease.

Though insanity was generally regarded by the ancients as a punishment for having incurred the displeasure of the gods and by moderns, until a century or less ago, as a diabolical possession, Æsclipiades, Coelias Aurelianus and Celsus treated it as disease. Galen called it *delirium sive febre* and Aretius *sempre sive febre*.

Without stopping to discuss the various literary attempts at defining this disorder, like that of Charles Lamb, who regarded it as a "disproportionate straining or excess of one or more of the mental faculties," which might include the majority of mankind, and passing by many of the medical definitions, we proceed to discuss a few of the latter.

Dr. Benj. Rush in the beginning of the century regarded this disease as "a departure of the mind in its perceptions, judgments and reasonings from its natural and habitual order, accompanied with corresponding actions, dependent on disease in the blood vessels primarily, and in that part of the brain which is the seat of the mind."

Dr. Munro defined it to be "a premature and abnormal exhaustibility of the vital powers of the sensorium." This is often the condition of the hemispherical ganglia in insanity, conjoined with a general loss of nervous tone, but neither cerebrasthenia nor neurasthenia constitute insanity *per se*. Though brain and nerve exhaustion usually coexist with insanity, they may be present without mental aberration. In some instances the insane display is due to a high grade of sthenic inflammation. The insanities which immediately follow cranial violence, in the robust and vigorous, are often of this kind.

Dr. Winslow asserts that no morbid change can exist in the hemispherical ganglia without involving to some extent the operations of the mind, and defines insanity to be the result of a specific morbid action of the hemispherical ganglia, ranging from irritation, passive and active congestion, up to positive and unmistakable inflammatory action. He thought "this state of the brain might be confined to one or two of the six (or eight) layers composing the hemispherical ganglia, but all the layers are generally more or less implicated, in conjunction with the tubular fibers passing from the hemispheres through the vesicular neurine."

A pretty correct statement, though a quarter of a century old, of the pathological condition generally found in insanity, but not a definition. It simply means disease of brain. Insanity is a qualified form of brain disease, involving the mind.

The light of three quarters of a century reflected from the cadaver has revealed lesions of the hemispherical ganglia where no insanity coexisted.

Though this definition lacks the essential psychic qualification, yet no better description of the general pathological state usually found in connection with insanity has ever been given.

A purely pathological definition cannot be made because the precise boundary lines of the *locus morbi* of mental aberration, beyond which sanity ceases and within which it invariably begins, has not yet been established.

Winslow's definition would include hemiplegia and epilepsia, both of which may begin in the hemispherical ganglia.

The funny definition of Sheppard, that "insanity is a disease of the neurine batteries of the brain," is likewise objectionable. Epilepsia is, in all probability, a discharging lesion of the psychomotor centers, and I suppose that is where Sheppard would place his "neurine batteries of the brain." Other diseases than epilepsia and paralysis, not necessarily accompanied with mental derangement, implicate the same parts of the brain in the same way.

A great many other attempts at defining this disease may be found scattered through medical literature, each one serving as an excellent description of many of the principal pathological or symptomatic states of mental derangement, but serving by

their very number and variety to confirm the oft asserted difficulty of defining this disorder.

The most ancient view of insanity is that "it is derived from a morbid state of the liver and that it discovers itself in a vitiated state of the bile." Rush thought Hippocrates was in error on this subject and that he never ought to have pronounced that historical encomium on Democritus whom he found in his garden at Abdera engaged intently in examining the liver of a dumb animal in order to discern the cause of madness. But the liver is often much at fault in insanity, especially in its incipiency.

Connolly, of non-restraint fame, defined insanity as "the impairment of any one or more of the faculties of the mind, accompanied with or inducing a defect of the comparing faculties. A purely psychological definition, as you see, with no element of disease in it, yet as good as Winslow's with the psychic feature omitted.

The main feature of the definition of Pritchard, viz., "a chronic disease manifested by deviation from the healthy and natural state of the mind," is embraced in the definition of Gooche and Andrew Combe, which we shall hereafter discuss. Esquirol defined mental alienation to be "a cerebral affection, ordinarily chronic and without fever, characterized by disorders of sensibility, understanding and will."

Dr. Tuke, after quoting as *apropos* to the subject, the well known saying of Dr. Johnson in regard to attempts at defining poetry, namely, that they only serve to show the narrowness of the definer, and after animadverting on the definitions of Cullen, Guislain, Combe and others, and very properly objecting to *chronicity* and apyrexia as essential to a proper definition of the disease, himself defines it as follows: "A disease of the brain affecting one or more of the mental faculties, intellectual or emotional."

He quotes Dr. Bucknill's as being substantially the same, namely, "a condition of the mind in which a false action of conception or judgment, or a defective power of the will, or an uncontrollable violence of the emotions and instincts, have separately or conjointly been produced by disease," and concludes that it is not in any definition of mental derangement, but rather from descriptions of the disorder and actual observation of the insane that we are to comprehend its true characteristics," just as the great Esquirol had confessed before him after forty years of study and observation at the Salpetrière and the hospital at Charenton. We must live with the insane in order to understand them, and having learned by experience "the varied and fugitive forms of this malady," we then realize the difficulty of describing it; and if we go from the corridors of the hospital for the insane to the dead house connected therewith, and essay with scalpel and microscope to find definite pathological changes in the brain to account for every case dying of reason dethroned,

we still have, sometimes, to leave the cadaver unrewarded for our labor; nevertheless insane asylum pathologists now seldom fail to find either morbid states of the cortex or meninges or ventricles, or *post mortem* evidences of *ante mortem* vascular or perivascular disease, sufficient to account for the preexisting mental impairment.

The conclusions of Schroeder Van-derkolk, who, in twenty-five years did not remember having dissected an insane person without finding an adequate explanation in morbid change of the phenomena observed during life, are confirmed by Maudsley, Blandford, Griesinger and all writers of repute in Europe, as well as Ray, Gray, Kempster and all the eminent alienists of this country. Even Dr. Benjamin Rush could say in 1812 that there were "but two instances on record of the brain being found free from morbid appearances in persons who have died of madness,"[1] so that with Liedsdorf we may safely say that "every mental disorder is founded in organic changes from which the brain suffers either primarily or secondarily."

It is probably not more difficult to frame a sufficiently comprehensive definition of insanity, for all practical purposes, the basis of disease being admitted, than to frame a definition of anything else. Yet definitions are always difficult. We have not found an absolutely unobjectionable definition of health or an unerring definition of disease in general.

In Shakspeare's day there were so many exceptions to the definitions of insanity that he was forced to say:

> To define true madness, what is't?
> But to be nothing else but mad!

The definition of Gooche and Combe just referred to is as follows: "*A prolonged departure, without adequate external cause, from the state of feeling and modes of thought usual to the individual.*" Such a departure from one's natural self could only be brought about by disease, affecting the mind.

This definition does not embrace the mania transitories, in the existence of which many alienists believe and which no one has more satisfactorily demonstrated than Dr. Edward Jarvis, of Dorchester, Mass., and the essential element of disease is omitted. Dr. Ray, however, in his most excellent work on the jurisprudence of insanity, quotes with approval and italicizes this definition, which is indeed a most excellent and comprehensive symptomatic description of insanity as usually seen in our asylums, adding that "the degree at which this disorder ought to be held, as constituting insanity, is a question on which we can scarcely hope for unanimity of sentiment."

But though a prolonged departure usually characterizes insanity, it is not necessary to constitute its existence absolutely.

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1. Diseases of the Mind, p. 16, referring to the cases related in his day by Drs. Stark & DeHaen.

It may begin with the delirium of a fever or immediately follow a blow on the head. Cases, however, in which the mental aberration is suddenly manifested, have, in our observation, almost invariably been those in which there has been a prodromal or incubative stage of apoplectic threatenings or epileptic or epileptiform seizures or marked depression of spirits.

The insane symptoms may disappear in a case of transitory or recurrent mania, with the subsidence of the cerebral hyperæmia or other cause which may have occasioned them, and the *external cause may be adequate* to produce either a transitory or a prolonged change in the habits of thought, feeling or action of the individual, and that mental changes have nevertheless all the characteristics of insanity. *Chronicity* is objectionable and the adequacy or inadequacy of the external cause, though usually a very significant fact, is immaterial, so that the internal or physical cause be a morbid one, and the mental departure from the natural habits of thought, feeling or action of the individual be dependent upon that morbid physical cause. Insanity, therefore, whether acute or chronic, and howsoever acute, or howsoever chronic, is such a mental change in the individual resulting from cerebral disease, as causes him to act not in harmony with his natural self and surroundings.

In a state of mental health the mental faculties appear to act as a whole. There is a peculiar harmony in their action, and in their relation to each other in action, giving to each person a distinct mentality, and constituting the individual's natural character.

In insanity this natural, harmonious action is disturbed, and the lunatic is neither in harmony with himself, as he has appeared naturally or with his surroundings. He is deranged in regard to both.

If no change in the habits of thought, feeling or action of the individual takes place, then it is not insanity. *The true test of insanity, therefore, is the comparison of the individual with his former self* taken in connection with the disease of the brain.

There are but few objections to this definition that I know of; the principle one being aphasia, where no mental aberration of necessity really co-exists, for a man may be both aphasic and rational as well as aphasic and insane.

Here then is a disease of the brain which always produces, to some extent, a change in the manner, if not in the habit of thought of the afflicted individual, and in some of his feelings and modes of action, and yet there need be no insanity in consequence of it.

Thus you see how difficult it is to find an absolutely unerring definition of this disease.

But if the aphasic person, or the apoplectic person, or the individual suffering from cerebral traumatism, especially of the anterior lobes of one hemisphere (as sometimes happens, with-

out delirium or other mental disturbance), recognizes in a rational manner, that his brain is injured, and appreciates the extent of his disability and the necessity for modified mental and physical activity and comports himself mentally in accordance with the facts; he is not insane, and it is here that the qualifying clause, *in harmony with one's natural self and surroundings becomes the saving clause that establishes one's sanity, even though he have disease of the brain, while our inability to truthfully affirm the existence of this harmony, establishes the presence of mental disease.*

The brain may either be primarily or secondarily involved in disease. The physical cause of the insanity may be mainly in the sympathetic nervous system largely dependent on disease of the uterus, the genitals or the liver.

As the cerebro-spinal centers may morbidly influence through motor, sensory and sympathetic nerve channels, the tissues and organs with which they are in communication, so may morbid states at the periphery of nerves, reciprocally affect the brain, as is illustrated in epilepsia, convulsions and neuralgia; and, as other diseases are occaslonally devoid of their usual characteristics, so may we sometimes fail to find any physical sign of insanity.

In those exceedingly rare instances, where the subtile morbid processes still escape our search for them, we need not therefore conclude that there is no disease, if we but remember how far more subtle than the most penetrating research, are the processes of disease in the human organism elsewhere; as in the insidious morbid changes which first follow the imperceptible, imponderable, intangible virus, or germ, or malaria, of an atmospheric infection, the unseen and unknown contagia of the exanthemata, the quick and certain work of some of the more tangible but infinitesimal poisons, or the structural causes of such undoubtedly physical diseases as hysteria, tetanus or chorea. I need not illustrate further.

It must be borne in mind that every definition of this disorder is an attempt to aggregate many morbid conditions into one comprehensive and brief description—to so unify all the neuropsychic disorders beginning or ending in the brain and disordering the mind as to make any and every form of insanity readily recognizable by applying to it the test of a single comprehensive definition, yet we succeed better in grouping together all the diseases of the brain affecting the mind, than if we were to attempt to comprehensively define all the diseases of the spinal cord or nervous system elsewhere, affecting sensation and motion.

When expected to give a definition of insanity in a court, it is well to state the fact that while all of the insanities have many similar features, many of them have symptomatic, as well as lesional characteristics, quite distinctive.

The many forms and varieties of insanity which reveal them-

selves to us when we make a diligent clinical search for them has led to the notion entertained and expressed by eminent alienists, that it can not be clearly defined, notwithstanding which fact most writers, as I to-night, have been lured into the attempt.

The fact is, like the working out of some examples in decimal fractions, the attempt is fascinating, even though we may have to content ourselves with a plus or minus quantity.

[2]The beginning of all disease is altered molecular action, either in the blood, which nourishes a part or organ and which is its life, or in the nerves, which constitute the soul, so to speak, of organic function. Next follows more profound changes, which we recognize as structural and marked derangement of organic functions; we then have recognizable and appreciable disease. When there is organic disease, i. e., either a functional or structural disease of a whole organ, we have change in its natural manner of acting, whether it be in the heart, the lungs, the liver, the abdominal or thoraci viscera, or in the cerebro-spinal axis.

Wherever it may be the natural manner of action is changed, and the organ or part involved is neither in harmony with itself naturally nor with its surroundings in the organism.

So is it with the lower and higher centers of the brain; if the former are affected, paralysis results; if the latter, psychical disturbance.

So that insanity conforms to the law of all other diseases in being a departure from natural function due to morbid invasion, and differs from them only in the fact that the invaded territory is that which is occupied especially by the mind.

It is this fact which brings it within the legitimate province of the physician.

The many recorded instances of extensive organic disease of the brain, both old and new, but especially Dr. Harlow's marvelous case — Pheneas P. Gage — still fresh in memory, the anterior portion of the left hemisphere of whose brain was penetrated through and through with an inch and three quarter diameter tamping iron, and Dr. Walter Kempster's more recent interesting case of atrophy of a hemisphere, without persistent psychic disorder, are not incompatible with the view that insanity is a disease when we consider that the cerebrum, like the cerebellum is a dual organ and that its hemispheres are capable of an independent and vicarious function, and likewise, probably, some of its convolutions, on the same side. (See Author's paper on the Dual Actions and Vicarious Functions of the Hemispheres, *American Journal Insanity*, October, 1875.) If a dart or ball go through the liver, the stomach, the bowels or transfix the upper part of the spinal cord, the result will be much more cer-

2. The writer elaborated this view in 1859 in a thesis for the degree of M. D., St. Louis Medical College.

tainly fatal than if one lung, one kidney or one cerebral hemisphere be injured, though great sudden violence to any of these organs is most generally fatal.

Like most of the other dual organisms, the brain can, and often does, accommodate itself to gradually invading disease, and continue to perform its normal functions despite the latter's presence, to no inconsiderable degree.

The higher centers of the brain concerned in the display of mind, are wonderfully conservative of their integrity, and often slow to yield to morbid assaults, especially where there exists no hereditary insane diathesis or inborn tendency to take on morbid action.

Considerable lesion of the medullary substance of either or both hemispheres may co-exist with a perfectly sound state of mind and in both hemispheres in what Ferrier and the localizers call the pre-frontal region of the cerebrum and in either hemisphere of the cerebellum[3] may exist without materially deranging the mind.

Mentality resides neither in the cerebellum nor chiefly in the frontal lobes, nor in a single hemisphere, as has been abundantly demonstrated by Physiological and Pathological testimony.[4] Moreover, brain tissue, like nerve tissue, elsewhere, as Dr. Jno. P. Gray[5] has shown, is capable of being reproduced and repaired.

An objection sometimes still urged against the somatic or material substratum view of insanity is based on the sudden cures which sometimes take place, as when a delusion has been dissipated by a joke or a fixed morbid idea driven away from the mind by a strategem. The psychical portion of the brain is naturally susceptible to mental impressions; so are the other parts of the body wherever the sympathetic nervous system reaches, as we see abundantly proven in the singular phenomena of neuro-psychic or metallo-therapy of M. Burq, lately revived by Charcot; as we see it sometimes displayed in the prompt suppression of a chill on the occurrence of a sudden alarm; in fear starting the voluntary excretory functions or preventing a convulsion; in unwelcome or bad news taking away the appetite, or stopping the heart, or in too sudden and unexpected good news causing it to beat with redoubled force or cease its throbbing altogether.

I need not recount in further illustration, the manifold vaso-motor disturbances such as cause the blush of shame, the flush of anger, or the pallid face of fear.

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3. See paper on Unilateral Cerebellum Disease without Persistence of Symptoms, by the Author in *Journal of Mental and Nervous Diseases*, October, 1877, and Flint's Phy. and Andral's Cases.

4. See writing of Hughling Jackson and Charlton Bastian.

5. Reprint from Trans. N. Y. Academy of Med., February 18th, 1875, *American Journal In.*, April, 1876.

ARTICLE VIII.

DENTAL FALLACIES.* By Dr. JOHN J. R. PATRICK, Belleville, Ill.

The paper which I have the honor to present to you this evening, will embrace but a small part of a large but unexplored field, and will simply aim to point the way to others who may feel disposed to investigate the truth or fallacy of the "Degeneracy of the Human Teeth." I know, gentlemen, that you are well aware of the deficiency of information possessed by intelligent people, as well as the lack of knowledge by our medical brethren in regard to the errors connected with our profession.

In the discussion of this subject it will be necessary to examine some of the fallacies which the literature of our profession discloses, because it is from this class of literature alone that we must look for the most disastrous results when in error, and for the greatest good when strictly scientific. At the outset it will be necessary to ascertain, if possible, the origin of the general belief in the degeneracy of man, including his teeth. Long before science arose to deal with this subject, this belief in degeneracy became enwoven with our history, our habits and our creeds; all the errors in regard to diseases with which man appears to be afflicted, rests on the Mosaical account of the fall, which was only meant to account for the apparent disorders existing in nature. A teleological idea which is essentially bound up with the other idea—that man was created in order that the world might not be without some intelligent creature who could appreciate it. But the countless ages that elapsed prior to the appearance of man is a sufficient answer to the philosophical theories of final causes.

We can trace the spirit of this doctrine of degeneracy through successive ages down to our own time, it has been maintained and defended from every pulpit and rostrum in Christendom, and forms the basis of all opposition to every advance in every department of natural science, especially those branches which relate to Anthropology or the science of man. Like predestination in Ethics, it has a constant tendency to paralyze every intellectual effort. These opinions are simply dogmatic and traditional, held by this man because it has been held by that man, a generality of assent, which means but little more than a multiplicity of credulities. There is nothing so servile as the

* An address delivered at the Missouri State Dental Association, held at Sweet Springs, June, 1879.

human mind in the presence of established or received opinions, and this condition is not confined to the uneducated in the delicate art of observation, for men of eminent culture find great difficulty sometimes in seeing plain facts when they come in conflict with their preconceived notions. But the questioning spirit of modern science demands more than a mere belief, it requires a careful classification of existing facts and their relations to each other. It scorns to float on the stagnant pools of common opinion; it demands facts, numerous and plain, and the conclusions from them inevitable. These must precede all theories, all attempts at exposition, the verdict must come after the evidence, and not before it. In the interest of science, therefore, it seems to me that some protest is now called for against the doctrine promulgated at this late date from so high and honorable a position as a professor's chair in one of our dental colleges. I allude to the opinions expressed in an essay written by Prof. Henry S. Chase, of St. Louis, on causes of the degeneracy of the teeth and published in a valuable little work issued in numbers by the publishing house of Estis & Lauriat, of Boston.

In this essay, the Professor asserts that foreigners who have been here only two or three years often go to the dentist and say, "My teeth are getting bad; they never decayed until I came to America. There must be something in the climate which injures them." He further says: "I believe that climate has nothing to do with decay. The savages who inhabited the State of Missouri one hundred years ago, or even fifty years since, had teeth perfectly formed and of dense structure and undecayed."

The Professor unfortunately fails to furnish any better reason than the foreigner, or any kind of proof but his simple assertion. He certainly did not examine the teeth of these savages, and he therefore was in duty bound to give some good reason for the statement. He states further: "I have in my possesion a large number of teeth picked up out of the earth by *myself* five years ago from the bottom of a mound on the banks of the Mississippi which was being removed. None of these teeth bear marks of decay! The red man of the last three hundred years has always had the reputation of perfect dental structures." The reasons the Professor furnishes are as follows: The food and habits of these savages were simple and natural. A large number of isolated teeth (it would be desirable to know how many) picked up from the bottom of a demolished mound, and the bare reputation that the savage enjoyed for sound teeth, during the last three centuries, justifies the Professor in the conclusion that it was his natural mode of living that secured him the blessings of a sound set of teeth. Hence, unnaturally prepared food and not climate is the cause of dental decay. The Professor again states that "the common field hands of the South usually had strong, well-formed and undecayed teeth; while the house servants were more or less afflicted with the toothache, like their masters and

mistresses. The food of the field hands was simple; while that of the house servants was the reverse and more like that of the whites."

The Professor, in this statement concerning the negro's teeth, I am well aware is on the strong popular side of the question. The great contrast between the negro's skin and his teeth is a powerful factor in this legend; for a negro's teeth must be very dirty and bad indeed not to appear white to the casual observer. The color and prognathism of the true negroes, and the consequent obliquity of implantation of the incisors, together with a receding chin, gives to his teeth great prominence. In this particular he differs but little from all the other low types of mankind. But the field hands of the South and the house servants were two very different peoples—the house servants, as a rule, had more or less European blood in their veins, which together with association, made them more intelligent and better fitted for places of trust than their purer-blooded brethren of the field. Only so far as mixed races are more subject to irregularities of the teeth, did the house servants suffer more from diseased teeth than the field hands. Before our late civil war, the teeth of the house servants in the South were attended to as strictly and with as little regard to expense as the teeth of the rest of the family. Aside from other considerations, an aching tooth in the household, whether in the mouth of master, mistress or slave, was a very unpleasant association, and a recurrence was guarded against by a visit to the family dentist. The field hands, on the contrary, when afflicted, disturbed no one excepting a few sympathizing friends in his quarters, who furnished the patient with all the nostrums and charms of which they were capable, for the sufferer, in most cases, dreaded the turnkeys of the plantation physician with a child-like horror. A visit to a dental office by a field hand was out of the question. A residence in the South before the war and a good share of Ethiopian practice (all extracting) justifies me in saying that the negro's teeth, beyond the age of twenty, are uniformly bad, and the mulatto's worse. If an examination were made to-day of all the negroes' mouths over forty years of age, by far the greater majority would be found approaching or in the condition of the venerable "Uncle Ned's," which has been recorded in that simple but pathetic ballad which bears his name. The Professor further states that people in the rural districts, one hundred years ago, had far better teeth than their descendants, and that when he was a boy, toothache was not common. Many persons eighty years of age had never lost a tooth. (Query: Did the boy examine the aged people's mouths in order to make this statement?) And he further states that Irish girls who come to this country for service usually have good teeth, but in two or three years their teeth decay surprisingly. This is easily accounted for (says the Professor) when it is notorious

that they eat large quantities of food made from superfine flour, of which they rarely tasted in their native country. Armed with these unsubstantial theories, the Professor looks to other influences than climate for the degeneracy of the teeth, and finds the cause of all the mischief in the use of XXX superfine wheaten flour; so that the teeth of fine-flour eaters are defective, their children inherit their defective dental organization, and so the mischief spreads!

Happily for the *bone* if not the sinew of the country, unbolted flour is not the only source from which man obtains his supply of lime salts for his bone tissue. A very little reflection will show that there is more lime salts in solution in one quart of spring water, than can be obtained from the bran and shorts in one bushel of wheat. The water we drink and other food containing lime salts, will more than compensate the loss of bran and shorts taken from the wheat by the miller. For my own part, I apprehend but little danger of the prospective American appearing eventually boneless and devoid of teeth. At least it must be shown that the average American lacks in bone tissue before this hypothesis can be entertained. It must be shown that the average Bavarian, who lives on rye bread and unbolted flour, has larger bones than the proverbially "raw-boned Yankee." There must first be proof that a calf fed on bran and shorts will have larger bones and teeth when grown than one turned out to grass. So long as the secretions of the body deposit calculi and carry from the system large quantities of lime salts, there needs be no fears of succeeding generations becoming edentulous.

I am well aware that it is, and has been the fashion of the times to charge deterioration of man to the advance of centuries. It is safe to do so; it is also orthodox. "Man is growing weaker and wiser," says one. "People do not live as old now as formerly," says another. "My great-grandmother never wore spectacles," says a third. "My great-grandmother never lost a tooth, and she was over eighty," says a fourth. And yet if you were to ask either of the two last named the Christian names of either grandfather or grandmother, they would not be able to tell you. Yet they will profess to know the condition of their teeth and eyes. If this degeneracy of the human family were true, it ought also to be true of domestic animals, for the same laws which govern the physical condition of the one likewise govern the condition of the other. All animals placed in conditions favorable to their development increase in size, strength and beauty, and it cannot be otherwise with man.

Men of a purely classical education have contributed much to strengthen the belief in the degeneracy of man; they have a mania for measuring every species of excellence by a Greek and Roman standard, and are attached to the past by a ligature which they are incapable of severing. They are lost in admiration at

the sagacity and almost intuitive wisdom evinced in the writings of such men as Aristotle, Plato and Hippocrates, and having but a slight acquaintance with the progress made in natural science of modern times themselves, deem the superficial knowledge of the ancients equal if not superior to the moderns. Such a man is the Boston Demosthenes (Wendell Phillips)—"a man of swift and tuneful tongue," who has frequently treated the public, in form of lecture, to a plaintive lamentation over the lost arts. He has stated in this oft-repeated lecture that the teeth of Egyptian mummies have been found to contain gold fillings. This very important statement, if founded in fact, in the place of being drawn from the pen of some sensational newspaper reporter, would only prove that teeth decayed then as now; but I am far from giving the least credit to such a statement. Such marvelous theories might become a lawyer or an orator to sustain a false but popular lecture, but would poorly serve the interests of science, which has little to do with the dreamland of conjecture and speculation. I have watched the current literature on this question for several years, and the result has been to convince me that the prejudice which I am combatting is so deeply rooted in most minds, that it would be very difficult to meet the assertions made by members of our own profession, were it not for the positive evidence which I shall present to you this evening. The general literature of the past, as might be expected, furnishes as little on the subject of decayed teeth and toothache as the current literature of the present day. The Bible, for instance, speaks of teeth broken, teeth put on edge, and in the Jewish law of retaliation, the loss of one tooth is made to satisfy the loss of another. The nearest approach to a knowledge of bad teeth is shown in one of Solomon's love songs, where he compares the teeth of the subject of his inspiration to a flock of sheep that are even shorn and fresh from the washing; which simply shows that such teeth were unusual, or he would not have selected them as special objects of admiration. The Roman satirical poet, Juvenal, who flourished, about the seventieth year of our era, in his fifth satire, describing the common custom at Roman feasts of serving the guests according to their rank with fine and indifferent food at the same table, says:

> "The scoundrel hands the bread you scarce can break—
> Hard, musty lumps, which make the grinders ache."

To enumerate the many silly charms for the cure of the toothache in the early history of medicine would extend this essay to an indefinite length. In the middle ages the saints were fearful enemies to the progress of the science of medicine. There was not a limb of the human body but had its special guardian saint; no disease, pain or accident but an especial saint was appealed to for relief, and aching teeth were well provided for. Saint Apollonia, Saint Petronilla and Saint Lusy were the celestial dentists.

Paracelsus, the great charlatan of Germany, who rose to such

popular fame in the early part of the sixteenth century that he obtained the professorship of medicine at Basil, and whose remedies consisted principally of magic, astrology and geomancy, gave cabalistical words to be repeated for the cure of the toothache. In the early part of the seventeenth century Bishop Hall, in one of his philippics against the ignorance of some of his enemies, says "that charms are their physicians, and they wear Paracelsian characters for the toothache." In a satirical poem written by the same author occurs the following verse:

> "Or Gallia wore a velvet mastic patch
> Upon her temples when no tooth did ache."

A nail driven into an oak tree is a very ancient remedy for the toothache, and is resorted to in the rural districts of Europe to-day. I had the good fortune to see the operation performed successfully by a Swiss before an admiring crowd of farm hands, and he declared to me, through his interpreter, that the remedy had never failed him. But by far the finest record of the loss of teeth and the existence of toothache near three centuries ago, is to be found in the works of that most illustrious of dramatic poets, William Shakespeare, for had toothache and the subsequent loss of teeth not been a natural condition and a common malady, he, above all men, would not have mentioned it. I find in the comedy of "As You Like It," in the scene where the brothers Oliver and Orlando quarrel, the old servant, Adam, interferes, but is rebuked and called an old dog by the elder brother. To which Adam replies: "Is old dog my reward? Most true, I have lost my teeth in your service; God be with my old master, he would not have spoken such a word." In the same play Adam says he is nigh eighty years old. In the same comedy, act II, scene 7th, Jacques compares the world to a "stage—the men and women merely players; man in his time plays many parts," his acts being seven ages. The 7th and last scene, that ends this strange, eventful history, is second childishness and mere oblivion: *sans* teeth, *sans* eyes, *sans* taste, *sans* everything. In the 1st scene of the 5th act of the comedy of "Much Ado About Nothing" two old men, Leonato and Antonio (brothers) are introduced, Leonato grieving over the death of his daughter, who has been slandered to death by one Claudio. His brother, Antonio, proffers him consolation, to which Leonato replies: "I pray thee peace; I will be flesh and blood; for there was never philosopher that could endure the toothache patiently." Further on in the same scene the two old men confront the traducer and challenge him to mortal combat, when it is stopped by the Prince of Arragon, and the two old men leave breathing vengeance. At their exit Benedick enters, and is informed by the Prince that he almost came in time to part a fray, and Claudio says: "We had like to have had our two noses snapped off by two old men without teeth." In the same play, act III, scene 2d, Benedick (who is

supposed by his companions to be in love) appears with the toothache, when the following conversation takes place:

Benedick. I have the toothache.

Don Pedro. Draw it.

Benedick. Hang it.

Claudio. You must hang it first and draw it afterwards.

Don Pedro. What! Sigh for the toothache?

Leonato. Where there is but a humor or a worm?

Benedick. Well, every one can master a grief but he that hath it.

Claudio. Yet say I, he is in love.

Benedick. Yet is this no charm for the toothache.

In the tragedy of Cymbeline, the gaoler says to Posthumus: "Indeed, sir, he that sleeps feels not the toothache."

In the comedy of the "Two Gentlemen of Verona," Launce produces a catalogue of the virtues and vices of his mistress, which Speed, another clownish servant, reads for him. Among the vices enumerated are the following:

Speed. Item: she hath no teeth.

Launce. I care not for that neither, because I love crusts.

Speed. Item: she is curst.

Launce. Well, the best is, she hath no teeth to bite.

In the latter part of the seventeenth century Dean Swift, in a satirical poem entitled "A Beautiful Nymph Going to Bed," gives a very minute description of all the artificial adornments in use in his day, and which his Nymph removes before retiring. In the catalogue enumerated is artificial teeth.

> "Now dext'rously her plumpers draws,
> That serve to fill her hollow jaws;
> Untwists a wire, and from her gums
> A set of teeth completely comes."

The poet Robert Burns bears testimony to the existence of decayed and aching teeth in Scotland in his immortal little poem an "Address to the Toothache," written soon after the author had been tormented with that disorder. One stanza will be sufficient to show the author's appreciation of it:

> "When fevers burn or ague freezes,
> Rheumatics gnaw, or colic squeezes,
> Our neighbor's sympathy may ease us,
> Wi' pitying moan;
> But thee, thou hell o' a' diseases,
> Aye makes our groan."

Any person but slightly acquainted with European art must know that Dutch, German and Flemish painters have all given ludicrous scenes of tooth extraction, which is a sufficient answer in itself to that pleasing legend which foreigners are so fond of telling "That they never heard of bad or aching teeth in the old country." If this will not suffice, ask the barber-surgeons, the German ones; they who were licensed to practice their calling in Germany, and they will tell you that tooth extraction was in-

cluded in the list of the operations they were qualified to perform.

The expression of firmness can not be depicted on the human countenance without the teeth, while their loss is the very type of feebleness. Painters, poets and sculptors at all times, in depicting or describing old age, have always portrayed their subjects without teeth. The sunken lips, protruding chin and drooping nose—no hard or fixed expression of firmness can be produced when they are gone; the face becomes flaccid and yielding, and this in proportion to the loss sustained in alveola, for if the teeth are lost early in life, the absorption becomes complete, and the result is the loss of the attachment of the principal muscles of expression. I do not feel it necessary to dwell further on the evidence capable of being brought forth from the literature of the historic period in support of the truths already presented; opportunity will be constantly afforded members of our profession, in the course of their general reading, to add largely to the evidence I have presented. Poor as the evidence may be that I have furnished from the writings of men, the evidence furnished by the remains of the prehistoric man is unmistakable, silent but eloquent in its silence, and beyond all controversy.

In the Academy of National Sciences of Philadelphia, there is a large collection of human crania taken from every portion of the known world. I refer to that magnificent collection made by Dr. Samuel George Marton. These skulls form the basis of his large work entitled "Crania Americana, or a Comparative View of the Skulls of Various Aboriginal Nations of North and South America." I have spent some time with these human remains, and while they are very deficient in teeth, many being lost, there are enough remaining to show that tooth decay and the maladies consequent thereto was not uncommon with these different races of men. In a work on Human Anatomy, by Alexander Monroe, published at Edinburgh, in 1813, I find on page 352, vol. I, a table of measurement of British skulls where there were no teeth, and the alveolar completely absorbed. I have in my own collection of American crania taken from the mounds of the American Bottom in St. Clair and Madison Counties, Illinois, nearly one hundred well prepared skulls of the so-called mound builders, and it is the exception to find among the whole number a sound set of teeth. In obtaining this number of comparatively good crania not less than four hundred graves were opened, the rest being too frail to preserve. The marks of alveolar abscess are common; loss of molars and bicuspids are frequent, with complete absorption of the sockets. I have two cases of antral abscess, with loss of the external wall of the antrum in one of them. I have one case of entire loss of teeth, with absorption so complete that the mental foramina is obliterated and the nasal process entirely gone. I have a number of cases in which the crowns of the teeth are in all stages of decay; others with the fangs or roots remain-

ing in the sockets, the crowns gone entirely. I have but two skulls in which the front teeth lap over each other; in all the other cases the masticating surface of the upper jaw fits perfectly that of the lower, and so with all the teeth that are not missing. The incisive teeth do not lap, but impinge on each other at their cutting edges like the molars, and are worn quite flat, so that when we look along the surface of mastication we perceive that it is almost a perfect plane. This appears to be the case with all primitive races, for they eat their food in quite a different manner from what we do. There are, however, exceptional persons in modern times who use their teeth in the ancient way. The teeth of the primitive man were used more for prehension than with us. Cuvier says, in his Comparative Anatomy, that the ancient Egyptians used their incisive teeth for the same purpose, for the incisive teeth of the mummies are all truncated, and with flat coronals. The teeth of the ancient British and Gaulish skulls are in the same condition. The introduction of the knife and fork or chopsticks in modern times, to convey food to the mouth, has no doubt modified the form of the jaws and the antagonism of the teeth.

Whatever may be said in regard to the difference of antagonism in the jaws of the ancients, the savages and the civilized man of modern times, there can be no difference of opinion as to the certainty of disease and death, for the evidence is beyond dispute that if there is a law in nature more constant than any other, it is decay and death, either in part or in mass. Every germ, in its development, meets with obstacles, meets with contending forces; so that but few of the countless millions of germs or seeds that are produced, rot before ripening and never come to maturity, and by far the largest number that do mature are warped, gnarled and twisted to such an extent that but few can be said to be in that condition which physiologists call normal. Constant, unrelenting and persistent are the contending forces which govern life; an excess of either one or the other must change and modify the character of the organism upon which they act; and the wonder is to the observant mind, not that nature does her work so poorly, but that she does it so well.

In conclusion, gentlemen, I desire to say that my only object in criticising the writings of others is prompted by an earnest desire to see the science of dentistry placed in its true position, alike beyond the reach of ridicule, fraudulent imitation and scientific dandyism.

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* At the close of the essay a motion was made to examine the teeth of all the negroes in the employ of the Sweet Springs Company, and a committee was appointed for that purpose. The committee, after a careful examination of over thirty negroes, reported their teeth in a uniformly bad condition.

ARTICLE IX.

MANAGEMENT OF NATURAL LABOR.* By P. W. LOGAN, M. D., of Stanford, Ky.

In order to fully understand and manage skillfully a natural labor, we should thoroughly acquaint ourselves with the pelvis and the entire generative sphere. We should correctly appreciate the normal dimensions of the fœtal head; at the same time we must be ready to recognize every abnormal condition present or possible to arise. A thorough knowledge of the true pelvis and Carus curve, is imperatively demanded. Dilation of the os uteri constitutes the first stage of labor. Uterine contractions alone complete and perfect this stage. It is therefore wrong and unnecessary to exhort a female in labor to bear down, until the second stage of labor has begun. This act is evidenced by expulsive pains, which are made up not only of uterine contractions, but also the contraction of the abdominal muscles and the diaphragm. We must distinguish true from false pains in order to decide the question as to whether the woman is in labor. If labor has begun the neck of the uterus will have been obliterated as it were, the os tincæ rendered ductile and thin. In order to ascertain the condition of the uterus, etc., we must make a digital examination. This examination is best made while the patient is upon her side, this position being less embarrassing than any other. While making the examination, we are to ascertain, if possible, the presentation and position, relative proportion of fœtal head to the pelvic excavation, condition of soft parts, etc.

A natural labor is a labor which is accomplished by the natural powers of the system, beginning at about the two hundred and eightieth day after the last show of the menses, or the one hundred and fortieth day after quickening and generally terminating without interference or assistance. We will not speculate upon the proximal causes of labor. Presentations of the vertex, face and breech, constitute the normal presentations of the fœtus, all other presentations being classed under the head of preternatural labor. Hemorrhagic labor, placenta prævia, concealed hemorrhage, post partum hemorrhage, hemorrhage following delivery of after birth, hourglass contraction, convulsions, exhaustions, cramp, prolapse of cord, carcinoma uteri,

* Read before the Central Medical Association.

fainting, hernia, engagement of loop of intestine in front of womb, twins, triplets, monstrosities, version, deformed pelvis, rupture of uterus, etc., being treated under the head of preternatural labor, will not be included in this paper. In attending a labor, a physician should absent himself from the lying-in apartment as much as possible, from the fact that many times his presence embarrasses the patient and retards labor. The patient should be inspired with confidence and made as comfortable as possible, being allowed cold drinks, plenty of fresh air, cold sponging of hands and face, light covering, etc.

Should the rectum and bladder be in a loaded condition, their contents should be evacuated. In case of reluctant dilation of the cervix, venesection, aperients, injections, or the administration of castor oil is necessary. Castor oil, administered under these circumstances, "seems to relax the force of the retentive fibers of the uterus, just as it does that of the sphincter ani muscles." It encourages the expulsive powers of the womb as it does that of the colon, rectum, etc. Chloroform we find a good relaxing agent. Professor Thomas always gives his parturient patients chloroform, while in labor, usually beginning its administration when the expulsive pains set in, and states boldly that he has never witnessed any deleterious results from its use. He asserts positively that chloroform will do no harm when a female is suffering severe pain, if its administration is deferred until expulsive pains begin. The more intelligent physicians of to-day agree with him upon this subject. Pressure upon the fundus of the uterus increases tenesmic force and overcomes obstruction. The position of the parturient female exercises great influence on the progress of labor, it being frequently hastened by changing the patient from the side to the back and vice versa, or allowing her to walk. Should the patient remain upon the back during labor, the shoulders should be considerably elevated in order to cause the fœtus to properly engage in the pelvic excavation and follow the direction of Carus' curve. A woman who lies upon the back with the head and shoulders low, may suffer for hours unnecessary pain, from the fact that the axis of the superior strait in this position is disregarded. The fœtal head should always enter the pelvic excavation in a flexed position. Should the flexion and rotation not be sufficient, we must make traction upon the parietal ledge, thereby bringing the vertex to the proper position. To accomplish this the vectis is sometimes necessary. Should vaginal vesicocele supervene, lift up the uterus, thereby allowing the bladder to empty itself and the vesicocele will vanish. In the management of this trouble we have succeeded with the gum catheter when the metallic instrument was of no avail. When the perineum resists the expulsion of the head, it should be relaxed by the application of "mucilaginous fomentations to the genital region; by relaxing drinks, anodynes,

emolient enemata and the warm bath." As a rule, when the pains are strong we must wait patiently.

The perineum should not be supported until it is somewhat on the stretch; then it should be supported in such a manner as to cause extension, from the fact that extension begins when the head reaches the floor of the pelvis or perineum, and continues until restitution is reached. The support of the perineum should be gentle and well directed, as too much pressure in the wrong direction might lead to its laceration. We gain time and assist in the expulsion of the head, by slightly pressing the vertex down with the aid of a napkin, so that it can pass under the arch of the pubis, thereby diminishing the pressure of the head against the perineum and hastening labor.

In case the cord is around the neck, pull the yielding end and pass it over the head or shoulders. Sometimes the cord is so tightly drawn around the neck as to endanger the life of the child or interfere with labor, in which event it should be cut immediately and tied after delivery. This, however, is *very rarely* necessary. The child, after being expelled, should be removed out of the reach of the liquor amnii, blood, etc., to prevent its suffocation. Should the child be still-born, efforts at resuscitation should be made as soon as possible, by applying hot water and turning it from side to side, as in Marshall Hall's ready method, by dashing cold water upon it, and, if necessary, resorting to artificial respiration. Efforts at resuscitation should be continued until we are certain that the child is dead. Immediately after the delivery we should place one hand over the hypogastrium, for the purpose of ascertaining whether there is another child, and whether there is sufficient uterine contraction to expel the placenta. Kneading the uterus through the abdominal parietes will almost always effect good contractions, after which we can safely wait a short time for the unaided delivery of the placenta. Should the placenta seem slow in being expelled, pressure should be made over the fundus of the uterus, which will force the organ down into the pelvic excavation. Frequently we succeed best by continued pressure, as interrupted pressure is attended with ascent of the uterus into the abdominal cavity, which retards the delivery of the placenta.

Should the placenta not come away, then the introduction of a portion of the hand, or, if necessary, the entire hand, should be made; then its removal, with the blood, can be accomplished. The attachment of the placenta to the uterus is by cellular tissue unless there be morbid adhesions, and not by inosculation of the vessels. The afterbirth is generally easily peeled off with the hand, but this step is not necessary until we shall have resorted to the usual means of its delivery, unless unusual hemorrhage is present, in which event we should immediately proceed to empty the uterus in order that it may contract upon itself, thereby closing thoroughly the open mouths of the blood vessels.

The bandage should be sufficiently wide to reach below the hips in order to prevent its slipping up or down. The accoucheur, in the language of Professor C. D. Meigs, should watch his patient for at least an hour after delivery, as the cat watches the mouse. The woman's safety lies in a firmly contracted uterus. After delivery we should ascertain whether there be inversion. "Should inversion be present we should immediately introduce the hand and deliver the afterbirth or push the fundus back to its place, and forbid the patient to make any straining or expulsive effort." In effecting the delivery of the placenta, undue tension should not be made upon the cord, lest we invert the uterus.

Afterpains naturally accompany uterine contractions after delivery and frequently increase in severity with the birth of each child. They commence soon after delivery and continue for several days; they are produced spontaneously or by reflex irritation brought about by applying the child to the breast, etc. For relief of the afterpains some preparation of opium is usually prescribed; sometimes an anodyne embrocation applied to the breast will assist in giving relief.

The inner surface of the uterus after delivery has been compared to the granulating stump of a recently amputated limb. This condition is attended with a lochial discharge which is offensive, and usually continues for several weeks. Females should not sit up too soon after delivery, lest a fatal hemorrhage should supervene. In case of hemorrhage after delivery of the afterbirth, "always turn out the clot," remembering that the safety of the female lies in an empty and well contracted uterus. Diet during the puerperal state for the first few days should be light and unstimulating, consisting principally of milk. Professor Thomas, of New York, always gives his patients milk during their lying-in state; he considers it the best and most innocent article of diet for the lying-in female. There is, however, in the rural districts of Kentucky, much prejudice existing in the minds of the more ignorant against the use of milk just after confinement.

A labor of longer duration than twenty-four hours is considered preternatural and demands interference. The os uteri and perineum being dilatable, a vagina short and capacious is favorable, the opposite giving rise to protracted labor. Sometimes one portion of the parturient canal is relaxed and another contracted, one part of the labor being rapid and another slow and tedious. There is sometimes sudden failure of the pains; on the other hand, sluggish and feeble pains suddenly become strong and energetic, making our prognosis as to time of delivery uncertain. As a rule the membrane should not be ruptured until the os is fully dilated. Sometimes, however, a superabundance of liquor amnii necessitates earlier rupture of the membranes, as labor is thereby greatly assisted and hastened. The membranes in the

primiparous patient, as a rule, should not be ruptured at all, or at least not until the perineum is put upon the stretch, from the fact that sudden evacuation of the liquor amnii and powerful uterine contraction may diminish the placental site, thereby resulting in its premature detachment, which would be attended necessarily with hemorrhage. During first, and early part of second stage of labor, the direction of the axis of the womb should be observed; at the same time we should counteract anteversion, retroversion, or obliquity to right or left.

In supporting the perineum, the head should be pressed, during its passage, close to the pubis, so as to strain the perineum as little as possible. The cord should be tied so as not to include the bowel, should umbilical hernia exist. The lying-in female should always make an effort to evacuate the contents of the bladder within eight hours after delivery, whether she has any desire to urinate or not, as the sensibility of the organ is sometimes so diminished that it does not respond to the presence of the urine, and will continue to fill until cystitis or some other trouble is developed.

The infant should be allowed a sufficiency of breast milk, and all the sleep possible for it to have; its penis should be looked after within three or four days after its birth. We sometimes meet with jaundice in the infant, which trouble is supposed to arise from the change effected in the circulation of the liver by the establishment of respiration and the arrest of the current of blood between the penis and the liver. This usually disappears as the liver becomes accustomed to the conditions of intra-uterine life.

In the management of natural labor, we meet with presentations of the vertex, face and breech. The vertex has six positions, viz., vertex to the left acetabulum, vertex to the right acetabulum, and vertex to the pubis; forehead to the left acetabulum, forehead to the right acetabulum, and forehead to the pubis. The above being Meigs' classification, and in my opinion the simplest and best for all practical purposes. In the first position of a vertex presentation, the head descends into the pelvic excavation flexed, comes in contact with the inclined plane of the ischium, rotates towards the pubis, and engages upon the floor of the pelvis (the perineum) when extension begins, and continues until the head is expelled, when rotation of the shoulders produces the last act of this mechanism, restitution.

The mechanism being the same in the second position of the vertex presentation as that of the first, except rotation is from right to left, the head assuming a position in the act of restitution corresponding with the position of the vertex in the second position. In the third position, vertex front, or to the pubis, we have no rotation, but extension and restitution. In the fourth position the vertex is rotated from the right sacro-iliac junction to the right acetabulum, thereby converting a fourth

into a second position. In the fifth position the vertex is at the left sacro-iliac junction, but is rotated by the mechanical form of the pelvis to the left acetabulum, thereby converting it into a first position. In the sixth position we find the vertex at the promontory of the sacrum. This position is usually converted into the fifth, then into the first with little or no assistance, but the position is very rare. When the head presents extended, we have a face presentation, the chin being at one side of the pelvis and the forehead to the other. There are two positions of the face, in either of which the chin should be brought to the pubis.

When the face presents the chin must be born first, from the fact that the occipito-mental diameter is greater than any diameter of the pelvis. The chin should (if not of its own mechanical force rotate to the pubis) be brought to the pubis, lest rotation into the hollow of the sacrum might necessitate embryotomy after a hard and protracted labor.

Therefore in face presentations always bring the chin to the pubis, unless rotation to the pubis is effected spontaneously.

Delivery by the face can be accomplished spontaneously and without assistance from the accoucheur. When it is possible we should restore the flexion by pushing up the forehead and bringing down the vertex, but should failure attend our efforts in the accomplishment of this end, we invariably bring the chin to the pubis, in order that it may escape first, thereby allowing flexion to take place as soon as possible.

Obliquity of the womb is supposed to be a cause of face presentation; it is therefore important to correct uterine obliquity.

The reference to two face positions are quite sufficient. In the first position the forehead is to the left, and the chin to the right side of the pelvis; in the second position the forehead is to the right, and the chin to the left side of the pelvis. In either position we bring the chin to the pubis.

In face presentations, the face of the child is swollen and otherwise disfigured; we should, therefore, notify the mother prior to the birth of the child that such will be its condition, thereby preventing the attachment of unnecessary blame to the accoucheur. While presentation of the breech is a perfectly natural presentation, the life of the child is in much greater jeopardy than if the presentation were cephalic. We have about one breech presentation in every fifty cases of labor, and about one in every five cases is fatal to the fœtus. The danger arising from breech cases results from asphyxia, which is due to compression of the cord, detachment of the placenta before the head is born, compression of placenta between the uterine parietes and the head of the infant; also constriction of the placental superficies of the womb during the time the child's head lingers in the vagina, the placenta-fœtal circulation from this cause being interfered with and respiration prevented because of detention of the head; the life

of the child (under these circumstances) if not sacrificed, is in imminent peril.

We should not hesitate, in the case of a breech presentation, to make considerable traction upon the body of the child, in connection with traction made upon the inferior maxillary, there being much more danger from asphyxia or suffocation than from injury of the spinal cord sustained by traction. We may save the life of the child by introducing two fingers into the vaginal canal and pressing the soft parts away from the mouth and nose of the fœtus, thereby allowing it to breathe and cry lustily until there is sufficient tenesmic force developed to cause its expulsion.

Being thoroughly acquainted with the normal conditions attending a natural labor, we can readily anticipate and recognize an abnormal or preternatural condition, which should be taken advantage of in due time. A natural labor may become preternatural; we should, therefore, constantly during our attendance upon the parturient female, be upon the alert and fully prepared for any emergency. By passing the finger along the linea ileo-pectinea, we ascertain the relative size of the fœtal head and pelvic excavation. Presentation of the foot or knee is simply a deviation of the breech presentation. Artificial irritation of the os uteri will increase uterine contraction, and is frequently resorted to; the introduction of a gum catheter into a lazy uterus will increase its contraction. A physician in New York reports a number of cases of rigid os as having yielded readily to the injection of atropine into the substance of the womb. As a last resort, in case of rigidity of the os, we would force dilation by introducing one finger after another until sufficient dilatation was produced.

With reference to puerperal convalescence, Dr. Goodell writes as follows: "See to it that the patient has a good getting up. Lactation should be encouraged, and from the first day the diet should be generous." Premature exertion should not be allowed. On the other hand, the recumbent posture should not be too rigidly enforced, as it may, in some instances, retard the passage of clots and lochial discharge and induce local congestions of the uterus. The patient, after confinement, should be allowed ordinarily to sit up whenever she feels sufficiently strong and well enough to do so. The obstetric binder, when worn too long, weakens the retentive power of the abdomen and causes the uterus to press unduly upon the vena cava and the pelvic veins, whereby the uterine circulation is interfered with and the process of involution interrupted. Interruption of this physiological process leads to too long a continuance of the lochial discharge.

Unhealed lacerations of the cervix uteri are also a cause of protracted lochial discharge. Astringent vaginal injections and the administration of iron, ergot and nux vomica, with a liberal use of wine, beer, etc., is advised in this condition. A vaginal

wash containing carbolic acid is recommended after abortions and labor, because of its tendency to prevent septic disease. With reference to the communication of septic or puerperal disease of a specific or contagious character by a medical attendant during or after labor, we must state that if such disease is communicated by a physician, it would be developed within three days after the termination of labor, from the fact that the peculiar poison which produces the specific or contagious form of puerperal disease will have been absorbed before the raw surfaces are granulating. The granulating process occurs by the third day after labor, after which time the absorption of septic material does not take place. Therefore, puerperal disease, occurring twenty days after confinement, could not be attributed to infection or contagion communicated by the medical attendant who had delivered the patient twenty days prior to the inception of puerperal disease.

Prof. Barker, of New York, states that "septic absorption must arise from traumatic lesions, which lesions are granulating by the third day, after which septic absorption cannot take place. Should absorption take place at the time of delivery, the effects of the poison will be developed by the third day." It is therefore impossible for a female, twenty days after the birth of her child, to be stricken down with puerperal or septic disease arising out of the attendance of a physician twenty days before the inception of her disease.

Reports on the Recent Progress of Medicine.

SURGERY.

BY H. H. MUDD, M. D.

Suggestions for new treatment and claims for improvement in surgical practice are so numerous and so rigorously urged, it is difficult to determine what is most worthy the attention of the reader, and impossible to discriminate always between what is new and the revival of old theories or doctrines, for many of the improvements claimed and suggestions advanced are but a new presentation of old practices. Where they have what seems to be a good foundation in theory, experience, or where the personal judgment of the author is such as to justify a careful consideration of his views, they will be presented.

SUSPENSION.—Thomas Annandale, F. R. C., S. E., read before the Medico-Chirurgical Society of Edinburgh, 4th March, 1879, an essay on "Suspension as an aid to Surgical Demonstration and Practice," which was published in the May number of the *Edinburgh Medical Journal*. He uses, in preference to the tripod of Sayre, two wooden upright stands eight feet three inches high with a movable cross-beam connecting their upper ends so as to form a scaffold four feet wide; and to this, by means of hooks, pulleys and padded straps, he suspends the tumor, limb or patient as the case may be.

Suspension as an aid to diagnosis and treatment of spinal affections is very generally admitted, and perhaps too generally practiced, for it is not always a safe practice; but he goes farther and thinks it very frequently adds much to thorough and satisfactory examination of arms and legs to have them suspended. It does seem that we might frequently obtain valuable information concerning the relations and character of pelvic tumors by the gradual raising of the pelvis through elevation of the limbs as suggested by him. The author claims that suspension has three advantages in amputation of the limbs and the removal of tumors:—

(1.) As the most simple means of assisting in emptying the vessels of the part to be removed of their contained blood.

(2.) As the most convenient method of keeping the affected part in position and allowing it at the same time to be freely manipulated, if required, without the aid of unnecessary assistants,

who might obscure the view of the operation or interfere with its ready performance.

(3.) As an assistance in carrying out the Listerian antiseptic principles.

In April, 1878, he transfixed a large adenoid tumor of groin and by means of his pulleys lifted it from its bed and thus was enabled to dissect it from its attachments without much manipulation. These large tumors are unwieldy, and it appears probable that in such cases the suspension would materially assist in the operation and meet the claims of its author and the expectations of the operators, and especially is this so in cases where assistants are not abundant.

It does not, however, occur to me that it would be of such advantage in amputation as to merit any very extended use, although it would very perfectly empty the vessels of the part to be removed of their contained blood.

He has also used it in elevating the legs and pelvis in reducing stranulated hernia and in removal of foreign bodies from the trachea.

It certainly might occasionally be useful in both instances.

But the author has not suggested—though perhaps its use in reduction of hernia might suggest the thought—that it be used in a very important class of cases which interest both physicians and surgeons, viz.: the twists and intussusceptions of the intestines. If Mr. Jonathan Hutchinson be correct in his suggestions concerning the proper manipulative measures for the relief of such obstructions, then it is here that suspension will find its greatest use, viz.: in the administration of an enemata in the inverted position and in abdominal taxis for the diagnosis and treatment of these conditions.

I cannot believe that the three advantages claimed for the system will be found of any material import in amputations of the extremities. If one has trained and intelligent assistants, no machinery can be made to answer as well as an expert assistant.

LITHOLAPAXY OR RAPID LITHOTRITY WITH EVACUATION.—The principles underlying the practice of this new operation are so opposite to all prior medical teaching, that their value could not be properly estimated until tried by actual experience, and this has been so favorable during the year and a half that has elapsed since its first announcement by Prof. Bigelow, that it seems proper to refer to the subject and record its progress.

The object to be obtained in this operation is the rapid crushing, though not necessarily the pulverization, of the stone and its immediate evacuation through the largest tube the urethra will admit.

There is no limit put upon the time given to the operation and less danger apprehended from prolonged instrumentation than from retention of sharp fragments of stone or the use of

large evacuating tubes, to clear the bladder at once from all irritating fragments. Sir Henry Thompson, who has performed lithotrity more frequently than any other man, says in his work published in 1868 that the problem to be solved is "The removal of a stone without injury to the bladder either in employing the instrument or by the action of the fragments themselves. * * * As a rule, every thing is to be done with a lithotrite * * * Other means, Clover's apparatus, for example, which is best of all, may be employed in exceptional cases. * * * Then you will take care that this debris is not hurried away when first made and while it is sharp. If it can remain in the bladder two or three days before it passes, it will become somewhat water-worn, and will pass more easily."

The limit in time allowed by him for a sitting was from two to four minutes. Thus it will be seen that his fear was of too much instrumentation—the evacuating apparatus was avoided, and the fragments retained for several days, if possible.

No doubt Sir Henry Thompson took greater liberties with his patients than he was willing to advise others to do, for Dr. Van Buren says that in 1865 he saw him operate and remove in half an hour by crushing and using Clover's evacuating catheter, a stone from an irritable bladder. Yet it is evident from his report of five hundred cases of stone in March, 1878, and from statements subsequently made by him that the position then occupied by him was substantially the same as in 1868. He delegated a larger proportion of his cases to lithotomy, but indulged in more prolonged sittings and used more freely anæsthetics. It seems apparent that his practice inclined to longer sittings and more work, but he still avoided large instruments and free instrumentation, and clearly failed to recognize as a fact the toleration of the bladder of instrumentation, and to Prof. Bigelow belongs the credit of the distinct enunciation of this fact and the advocacy of large instruments and prolonged work with them and immediate and complete evacuation of the fragments. These three very important departures from accepted practice and teachings are innovations, distinctly American, in surgical practice, and are to be credited to the independence and courage of Prof. Bigelow. Immediate and thorough evacuations of fragments by means of large instruments and their free use, is I think the true foundation for the operation, and I believe success will attend its practice. Mr. Wm. Cadge, in the *London Lancet*, April 15th, 1879, reports the result good in six cases in which the time occupied was from ten minutes to half an hour.

Mr. Van Buren gives in the *Medical Record* of September 28th, 1878, and March 22d, 1879, the result of litholapaxy in thirteen cases. The operation, in some cases, occupying an hour, the result being good, and the superiority of the principles enunciated by Prof. Bigelow is recognized.

The chief point in Bigelow's operation is in the recognition

and use of the hitherto unknown tolerance of the bladder of prolonged instrumentation.

Proclaiming this as a fact and adapting his instruments and operations to it, constitutes the improvement made in the operation of lithotrity by Prof. Bigelow.

How great the improvement may prove to be can only be determined by an experience that must embrace the experience of years and its comparison with the result of the methods so long recognized and which was considered by Sir H. Thompson, the great lithotritist, so nearly perfect.

It remains to be seen whether recurrence of stone from undiscovered fragments will be as frequent as under the old *regime*, whether cystitis will be as frequent and severe as when the fragments are permitted to remain in the bladder, whether retention of urine from atony will be more frequent and prolonged, whether the per centage of recoveries is greater, and whether these recoveries are prompt and satisfactory, thus dismissing that large class of cases in lithotrity which neither recover perfectly nor die promptly.

I think we may safely infer that recurrence of stone from retained fragments will not be so frequent when the large evacuating tube is employed. I believe cystitis will not be so frequent, and when we remember that urethral fever is not dependent in any way upon the amount of injury done to the part, but is uncertain in its development—often appearing in great violence where no injury has been inflicted and instrumentation has been at a minimum, while it is absent when injury is great. It seems strange that the tolerance of the bladder to prolonged instrumentation had not been long since tested by experience.

If the operation proves to be all that we hope and believe it will, new honor will be given to American surgery and a great gain recorded in the surgery of the world.

SEPTICÆMIA.—The *London Lancet*, May 24, 1879, in an editorial gives a brief outline of the report of the committee appointed by the Pathological Society to inquire into the nature, causes and prevention of pyæmia, septicæmia, and purulent infection. The term pyæmia was reserved for those cases in which metastatic suppuration was present.

Cases of septic intoxication were noted comparable to those produced by injection of septic fluids into animals, and the committee estimate that it would require the entrance of "two or three ounces of putrid serum into the blood at one time" to produce such intoxication. This pre-supposes a large absorbing surface and the presence of confined putrid fluid, conditions not infrequently found after ovariotomy. Bacteria were found in nearly every case where the blood was examined, but were regarded by the committee as evidence of the existence of pyæmia rather than the cause of its production.

The association of arthritic pyæmia with inflammation of the genito-urinary tract was very constant.

The examinations of the urine showed a diminution of the excretions of its inorganic constituents, chiefly earthy phosphates. Septicæmia is now of such interest that it is to be hoped that the complete report as submitted by the committee and which considers the etiology, semeiology and pathology will add something more to our knowledge of this disease.

HIP-JOINT DISEASE.—Joseph C. Hutchinson in an article in *The American Journal* for January, 1879, describes what he calls physiological method of extension in the treatment of morbus coxarius. He says: "The indications for the treatment of morbus coxarius as I understand them, are: (1) to secure immobility of the joint; (2) to procure extension of the limb; (3) to take off from it the superincumbent weight of the body; (4) to provide means to enable the patient to take exercise in the open air."

These indications are well stated, will meet the consent of most surgeons, and if fulfilled will answer for the treatment of a great majority of cases of disease of hip-joints. He then announces that "To secure immobility of the joint no apparatus is necessary." Also that "to obtain extension of the limb no apparatus is required," and thus leaves only the third and fourth indications to be provided for, and in doing this with a very simple apparatus puts the patient in a condition which permits physiological and physical laws to supply both the first and second indications. "To remove the weight of the body from the limb and to adopt some expedient that will allow the patient to get the benefit of open air exercise," will fulfill the third and fourth indications, and this is accomplished by fastening to the shoe of the sound limb a steel plate, to which is attached a second plate by means of two or three upright rods three inches in length. This second steel plate should be covered on its inferior surface with leather. This apparatus raises the sound foot from the ground and with a pair of crutches accomplishes the object desired, for it allows the diseased limb to swing clear of the ground, enables the patient to exercise freely while the weight of the limb produces sufficient extension, and the rigid muscles excited to action by the inflamed joint, produce immobility of the joint.

Fixation of the joint, as the author contends, is accomplished more perfectly by muscular action, without the aid of mechanical apparatus, than with it. It is certainly a fact that the joint is often very perfectly immobilized, especially in the second stage, but it is not so perfectly in the first stage. The muscles do not resist motion in the joint when first it becomes affected, except in extreme motion, as of flexion and extension. The author claims that the results of his treatment are good and it may be all-sufficient, but the joint cannot be said to be immobilized by the muscles, nor by the apparatus when the disease is entering upon the first stage.

I am inclined to believe that the apparatus is sufficient for this stage and that immobilization cannot be obtained without too great a sacrifice. The author refers, very properly I think, to the advocates of what is termed the "American idea" of an apparatus which makes extension but permits motion of the joint without friction. He says: "This seems to me to be a mechanical absurdity." I think the anatomy of the joint, the physiological and pathological conditions attending this disease sustain his position, and believe that we do not have motion without friction, and that this friction in a hip joint in second or third stage is no more desirable than it is in any other inflamed joint, and is to be avoided.

The author's experience leads him to think that extension at night will not be necessary, but may be used if needed.

The plan is simple and is easily and efficiently enforced, and if it will answer the purpose, will be a great advance in the treatment of these cases.

Some of the eminent surgeons, distinguished in this specialty have been in the habit of declining to treat any patient who could not be under their immediate supervision, because of necessity of constant care in the proper management of the apparatus supposed to be necessary in its proper treatment.

The plan as herein indicated can be carried out efficiently by the ordinary practitioner and will thus be made available to many who could not be placed in skilled hands, nor yet afford the complicated apparatus heretofore used.

AN IMPROVEMENT IN TREATMENT OF EPIDIDYMITIS.—In April number of *American Journal* an extract is made from the *Medical Times and Gazette*, December 14, 1878, of an abstract of a paper contributed to the *Allegemeure Wiener Med. Zeitung*, Nov., 1878, by Prof. Zeissel, giving his results of treatment of epididymitis. He states that for ten years the plan of treatment has been antiphlogistic, viz., leeches and cold compresses along the course of the cord to the perineum, the employment of purgatives, a restricted diet, and confinement of patients to bed.

The time required, the attention necessary, and the confinement made other treatment desirable. *Frick's* plan of regulated compression by means of adhesive plaster was tried but abandoned on account of its inapplicability when the skin was sensitive, and on account of the danger of wasting of the testes and gangrene of the scrotal tissues.

The plan now adopted and with satisfactory results, is that of Langlebart as described by Horand. The apparatus used consists of three parts—a layer of wadding of a sufficient degree of thickness, a square piece of caoutchouc cloth, and a suspensory. This last, triangular in shape and slightly concave, has a hole at its upper edge, through which the penis is passed. To its two upper corners are attached two long bands which serve to confine it around the abdomen, and the lower angle is also attached

to two bands which surround the thighs, these last being connected with and fastened to the bandage which goes around the abdomen. The patient lying in the horizontal posture, raises the scrotum, well enveloped by wadding, as high as possible upon the symphysis pubis, and then the square piece of caoutchouc cloth is applied with its shining side towards the wadding, a circular hole having been made in its upper part for the passage of the penis. The suspensory is then put on and firmly secured to the abdominal band. By this means the scrotum is kept up almost level with the upper edge of the pubis. Horand does not undo the bandage until the end of a week, and if he finds the swelling has not yet disappeared, he continues the procedure or applies a resolvent ointment or plaster.

Such is the plan recommended by Prof. Zeissl, of Vienna, in Nov. 1878, as an improvement in the treatment of epididymitis. Certainly it is a marked improvement on the plan pursued in his treatment at the hospital, where he has treated during the past eight years 696 cases according to the anti-phlogistic system, as indicated in the beginning of this paragraph.

The widespread faith in cold as an application and the latent desire to use compresses by adhesive straps, has induced me to consider Prof. Zeissl's so called improvement, in order that I might call attention to the fact that this improvement is almost identically the treatment recommended by Van Buren and Keys in their work on "Genito-Urinary Diseases," published in 1874. Treatment will be found on pages 424 and 425.

He there distinctly states that "where pain and swelling are already present, any cold or astringent application is harmful." I have during the past ten years very rarely seen cold applications used for such inflammations, and have used the triangle for a suspensory as recommended by Van Buren, and think American surgeons generally use warm applications in preference.

The plan of Langlebart is practically a fomentation with proper suspension and suspension that can be obtained in no other way. This suspension, with slight compression and retained warmth and moisture, will certainly shorten the duration of these cases from one-half to two-thirds.

DISEASES OF THE RESPIRATORY ORGANS.

BY WM. PORTER, M. D.

1. Advance in Laryngology.
2. Massage of the Tonsils—Quinart, Arch. Med. Belges, per N. Y. Med. Jour., Aug , 1879.
3. Ear Cough—Woaks, London, H. K. Lewis, 1879.
4. Carbolic Acid in Whooping-cough—Seeman, St. Petersburg Med. Wochenschr, 1879.
5. Treatment of Diphtheria—Lownds, Lond. Lancet, July, 1879.
6. Syphilis of the Trachea and Bronchia—Vierling, Deutsch, Arch. für Klin. Med., 1879.
7. Laryngeal Tumors and Tubercular Laryngitis—Ingalls, Chicago Med. Jour., July, 1879.
8. Laryngeal Phthisis—Bosworth, N. Y. Med. Record, May, 1879.
9. Laryngeal Phthisis—Heinze. Veit & Co., Leipsig, 1879.
10. Œdema Glottidis in Laryngeal Phthisis—Gougenheim, Gaz. Hebdom., 1879.
11. Tracheotomy in Bi-lateral Paralysis of the Posterior Crico-Arytenoid Muscles—Sémon, Lond. Lancet, May, 1879.
12. Galvano-Tracheotomy—Bœchel, Lond. Med, Record, April, 1879.
13. Inhalation in Pulmonary Diseases—Davis, Detroit Lancet, May, 1879.
14. Contagion of Phthisis—Bancroft, Am. Med. Bi-Weekly, 1879.
15. Pulmonary Thrombosis—Huchard, Le Union Medicale, 1879.

1. We refer with pleasure to the many excellent reports now being made on laryngology, giving fair promise that this department is well cared for. In this country, Lefferts (*N. Y. Med. Jour.*), Knight (*Boston Med. and Surg. Jour.*), Glasgow (*Courier of Medicine*), and Hartman (*Maryland Med. Jour.*), are doing good work. The former has made eighteen reports to date, the bibliography being the most complete extant. Great assistance to the collaborators is furnished by the *Index Medicus* of Drs. Billings and Fletcher, while in England we find that Dr. Sémon has taken charge of this section in the *London Medical Record*, and is making his reports one of the features of that well known journal. As a further evidence of the labor bestowed by those devoted to this specialty, we have the recent, almost simultaneous issue of Seiler's little "Manual," Cohen's large and very complete second edition of "Diseases of the Throat," and the third edition of Prosser James' "Lessons in Laryngoscopy and Rhinoscopy." Several other books of similar purport are in press, and the forthcoming "Transactions of the American Laryngological Association" will be full of interest. We regret that want of space forbids us to mention all of the valuable papers received since our last report.

2. M. Quinart, of Belgium, treats hypertrophy of the tonsils as follows: He covers his index finger with alum, introduces it into the mouth, and brings it to bear directly on the tonsil, which is manipulated with gradually increasing force. After a few repetitions this method ceases to give pain, and the patients learn to practice it themselves. This treatment is not applicable during acute inflammation. [Massage has for some time been employed for the absorption of hypertrophied tonsils, but without much success. The topical application of astringents, alteratives, etc., has availed little. Probably a combination of the two methods, as above, will do better.]

3. In the third chapter of his recent work on "Deafness, Giddiness and Noises in the Head," Woaks gives an interesting explanation of "ear cough." This phenomenon is "due to irritation of the sensitive fibers of the auriculo-pneumogastricus distributed in the meatus, which is reflected along the motor fibers of the superior laryngeal nerve, exciting in the larynx the act of coughing by causing contraction of the crico-thyroid muscles." If the vaso-motor fibers are involved, structural lesion of the larynx may result through impressions conveyed by way of the pneumogastric ganglion, and thence to the first cervical ganglion. Thus the vaso-motor supply of the larynx may be influenced, giving rise to congestion of the laryngeal vessels with effusion or hypersecretion.

4. Dr. Seeman, of St. Petersburg, advocates the use of carbolic acid in whooping-cough. To have the best effect from this agent, a woolen cloth should be saturated in a 5 per cent solution and affixed to the head of the bed, so that the child may inhale it while it sleeps.

5. Having had almost unbroken success in the treatment of diphtheria during eleven years, Lownds believes it to be allied to erysipelas, and treats it with one of the per salts of iron, e. g., tr. ferri perchlor. f. ʒij; liq. ammon. acet. f. ʒij; potass. chlor. f. ʒiss; aq. distil. ad. f. ʒviij. In this solution there is formed the acetate of iron, muriate of ammonia and free chlorine. A tablespoonful may be given every hour in urgent cases during the first few days of treatment. Lownds does not interfere with the membrane, prescribing only a gargle of weak solution of permanganate of potass. He also procures at least one evacuation of the bowels daily, supports the system by wine, soup and milk, and insists on perfect ventilation.

6. From forty-six cases of syphilitic disease of the respiratory tract, Vierling concludes that ulceration always occurs in syphilis of the trachea, resulting either in cicatrization and narrowing of the tube, or in perforation of the tracheal walls. The principal evidences are the history, cough, purulent expectoration and dyspnœa. Bronchial syphilis is rare beyond the two bronchi.

7. In the article by Ingalls we find a short resumè of some kinds of laryngeal growths, and the history of two cases, the second one being more probably the result of tubercular deposits. Our author found evidences of tuberculosis in the lung, yet hesitates to call the associated laryngeal disease tubercular. [We do not find fault with him for this, as there are many who bear him company, though clinical experience is rapidly confirming the views of Foster, Frankël and Virchow regarding this vexed question. We doubt not the nature of such cases, whether shown by the characteristic nodule, or whether influenced by the closer laryngeal structures, there is merely an infiltration of poorly developed rapidly proliferated cells. Just here is an important difference between the so-called tumors of the larynx and tubercular infiltration. The former consist of large, well developed cells, producing densely organized neoplastic formations; the latter is mainly composed of small, poorly formed cells with multiple nuclei, which, rapidly increasing, soon crowd upon each other and die. Under more favorable conditions for development, as in acute disease in the less dense lung, these newly formed degenerate cells attempt organization, whence the tubercular nodule. The character of the disease does not depend upon the success of this attempt, it is tubercular *per se*. We do not mean that in all cases of laryngitis in phthisis we can find true tubercle, for there are many instances in which the catarrhal and follicular inflammations predominate. The point in question is this: If pulmonary phthisis, as distinct from chronic broncho-pneumonia and fibroid phthisis, depends on tubercular infiltration, and is a constitutional disease, then the typical laryngeal inflammation of phthisis, arising from like causes and in direct sympathy with the lung disease, is tubercular also, for as Flint states it, "both have a common causation."

Possibly no chapter of pathology has been more fully illustrated of late than that which relates to laryngeal tumors. Since the laryngoscope has lighted up hitherto dark passages in human anatomy there has been a constant exodus of growths from recesses where they had long lain undisturbed. Were it not that these tumors are often recurrent, the multiplicity of reports would lead one to imagine that there would soon be a dearth of them. It is now known, however—though twenty-five years ago it was unknown—that laryngeal growths are not uncommon, and that they are frequently the cause of conditions formerly designated "hoarseness," "aphonia," etc. The comparative safety with which these neoplasms may be removed, and the actual and generally permanent relief that is done, naturally stimulates experts to aggregate reports of such cases. Nor would we disparage this. It is rather a matter of congratulation on the part of the surgeon, certainly of the patient, that we have a rapid and almost painless procedure as a substitute for doubt, laryngotomy or death. Not the least important contributions to conservative

surgery have been the histories of these cases by Elsberg, Lefferts, Wagner, Cohen, Todd, Ingalls and others in this country, and by a host of well-known authors abroad.]

8. In considering the subject of laryngeal phthisis, Bosworth gives most excellent directions for treatment. First, thorough cleansing of the parts; second, application of such mild astringents, alteratives or resolvents as may be indicated; third, the application of an anodyne to relieve pain or irritability; fourth, the application of iodiform to ulcerations. The efficacy of the treatment is emphasized by the history of twenty-nine cases. This author does not believe that laryngeal phthisis is a manifestation of tuberculosis, but a separate disease, into which a simple catarrh may develop, provided there exists a depraved condition of the general system, which may be due to the tuberculous, scrofulous or syphilitic diathesis, malaria, anæmia, or Bright's disease. [Much depends, we know, upon what is meant by tuberculosis. We must dissent, however, from the opinion that catarrhal conditions, the sequelæ of syphilis, Bright's disease, etc., through diminished systemic resistance, are instances of true laryngeal phthisis. The wide range which is given to this term must, in part, account for the pleasing results of treatment, as thirteen out of the twenty-nine cases were virtually cured of the laryngeal disease.]

9. The scholarly brochure of Heinze, of Leipzig, does much to decide the question as to whether laryngeal phthisis is of tubercular origin, or whether, as many claim, it is merely a catarrhal inflammation. The author cites 475 cases which were examined in the post mortem room of the university, and as this evidence is direct and valuable we ask attention to his statements. The larynx was ulcerated in 30.6 per cent of all the cases, the trachea in 8. Men are more liable to this complication than women. After the lungs, the organs most frequently affected in phthisis are the intestines, 51.3 per cent, and the larynx in 30.6. Laryngeal ulceration is mostly found between the ages of 21 and 30. Regarding the pathology of the disease, in 94 per cent there was tubercular degeneration in either the larynx or trachea, or both. Heinze shows that though there may be the rare coincidence of a non-tubercular laryngeal ulcer with phthisis, yet the changes in the larynx called "laryngeal consumption" are, as a rule, entirely *due to tuberculosis* of the mucous membrane of the larynx. The author concludes, first, primary tuberculosis of the larynx is not proven; second, it is impossible to determine, accurately, without examination of the lungs, whether a laryngeal ulcer is tubercular or not, though from the characteristic appearances a very probable diagnosis, by means of the laryngoscope alone, may be made; third, a cure of laryngeal tuberculosis will, most probably, never be made. [Tubercular infiltration of the lungs is sometimes limited; cavities become circumscribed; subjects of acute tuberculosis do not

always die (McCall Anderson); why, then, should we not hope for recovery, in some cases at least, of tubercular laryngitis, especially if rest to the parts is secured by tracheotomy, as recommended by Elsberg, Robinson and others. The large number of his autopsies would almost seem to justify Heinze in his third conclusion, did it agree with the clinical experience of others. This contribution is invaluable to those interested in the pathogenesis of laryngeal disease.]

10. In a paper on laryngeal phthisis in the Congress of the French Association for the Progress of Science, Gougenheim declares that the urgent symptoms formerly associated with the idea of œdema glottidis are more frequently in this disease the result of compression of nerve fibres by infiltration. In these cases of inspiratory obstruction, the posterior crico-arytenoid muscles are at fault, consequently scarification is dangerous, and except in cases of hyperplastic change, topical applications are useless. Tracheotomy gives the best promise of success. [Formerly almost all cases of paralysis of the abductor muscles of the vocal cords were supposed to result from central nerve lesion. Lefferts has, however, published two undoubted cases in which syphilis was the cause of this condition, and we believe, with the author quoted, that it may accompany laryngeal phthisis. Dr. Mudd, of this city, performed tracheotomy in a well defined and urgent case of bilateral paralysis of the abductors, two months since. The laryngeal condition was carefully determined by the laryngoscope, and physical examination yielded the characteristic evidence of tubercular infiltration of the lungs. Since the operation, there has been decided improvement in the pulmonary disease, the crepitation, dulness and muco-purulent secretion having sensibly diminished. Favorable laryngeal change is not, as yet, marked, though the paralysis seems to be less complete. This case, and the good result from operation, tend to confirm the views of Gougenheim. Another case in the practice of Dr. Mudd, was that of a farmer, æt. 50, who was seen one year from the inception of the disease: There was no pertinent history or cause found for the paresis of the abductors, after the most careful inquiry, neither was there any infiltration of the laryngeal structures. Except this lesion the man was in excellent health. Ott reports a case (Prag. Med. Woch., No. 15, 1879,) where paralysis of the abductors was evidently produced by the pressure of a large piece of meat, wedged in the pharynx for twenty-four hours. The paralysis remaining even after the foreign body had been dislodged, tracheotomy was done.]

11. Dr. Sémon, having performed tracheotomy on a patient suffering from paralysis of the abductor muscles of the vocal cords (the crico-arytenoidei postici) endorses such treatment thus: In a case of bilateral paralysis of these muscles in which a considerable stenosis of the glottis has taken place and marked dysp-

nœa is present, unless within a short time not only subjective relief but an actual enlargement of the glottic opening has been obtained, tracheotomy ought to be performed without delay. [This is certainly the indication in this comparatively rare condition. Over ten years ago Mackenzie's dictum was, "the operation without delay to save the patient." On account of the difficulty of breathing, the vocal cords acting as a valve to prevent inspiration, local remedies cannot be satisfactorily employed. In a few cases temporary relief has been given by electricity, but there has still been some stenosis remaining, threatening danger to the patient.]

12. In the *Ann. des Mal. de l'Oreille et du Larynx*, Vol. iv, No. 6, Bœckel says that the best mode of tracheotomy, whether by knife or galvano-cautery, remains an open question. It appears that in the latter method, there is not much less hemorrhage, more trained assistants are required, the wounds inflicted are larger, present an erysipelatous redness and heal slower than when the knife is used. It is not likely that the galvano-cautery will supercede the always ready knife except to a limited extent, in tracheotomy.

13. After mentioning the fact that in certain diseases the respiratory tract is quickly responsive to medicated inhalations, Davis states that vapor penetrates to the deeper bronchial and pulmonary passages more readily than spray, especially if the vapor be in the form of steam. In chronic bronchitis with excessive muco-purulent secretion he commends acid. carbol cryst. grs. xxx; tr. opii. camph, f. ʒ iij; a teaspoonful in half a pint of hot water, to inhale as directed. Where there is a harsh, hard cough with little expectoration he writes, ol. terbinth. f. ʒ j; tr. opii camph. ad. f. ʒ iij, used as above. In pneumonia and phthisis, where the bronchial tubes are much implicated, such inhalations are often indicated, and should last from five to ten minutes, being repeated several times daily.

14. Bancroft, believing that phthisis is contagious, allùdes to two ways in which it may be communicated. 1st. The ejected matter from the lungs of a diseased patient, falling into the street, becomes adherent to particles of dust and may thus enter the lungs, especially if there is a great amount of sputum about the place of resort. 2d. As the morbid exhalations in phthisis are abundant, the hotels and houses long used by consumptives become polluted with effete matter, and are dangerous both to the weak and the strong. There is no disease more susceptible to the influence of impure organic matter than phthisis. The author protests against the crowding of health resorts, now so universal.

15. In a recent article in *L'Union Medicale*, Huchard calls attention to the fact that in cachectic diseases, owing to the changes

which the composition of the blood undergoes, together with progressive enfeeblement of the cardiac contractility, the tendency to sanguinous coagulations in the veins of the limbs, the sinuses of the dura mater and elsewhere, is great and fraught with much danger, from the consequent presence of wandering coagula in the veins, and their arrest in the right side of the heart, or even as emboli in the pulmonary artery. He also maintains that in many cases when sudden death is due to the plugging of the pulmonary artery, the plug has formed at the spot where it is found, and that we have to do with a thrombus, and not an embolus. In cases of marasmic embolism the plug is usually formed at spots where there is the greatest tendency to blood stasis, i. e, at the points furthest removed from the action of the cardiac impulse or the thoracic respirations; now the position of the pulmonary artery is little calculated to favor this tendency to clotting, but, on the other hand, the blood it contains is rich in carbonic acid and poor in oxygen, two conditions which favor thrombosis; moreover, in pulmonary tuberculosis the right side of the heart may become so feeble from muscular degeneration, and so much of the respiratory surface of the lung may be destroyed by the disease, as to afford conditions very favorable to pulmonary thrombosis.

Huchard, Charcot and others have noted cases of sudden death in advanced phthisis where a clot was formed in a branch of the pulmonary artery. The ordinary cause of sudden death in phthisis is progressive anæmia; the blood is unable longer to nourish the brain, and the brain, by failing to perform its function, diminishes the capability of the circulatory system, thus forming "a vicious morbid circle" from which there is no escape. In the rarer cases above mentioned where the symptoms of asphyxia are blended with those of syncope there is either pulmonary embolism or pulmonary thrombosis. [The case books of many practitioners will testify to the value of the observations of M. Huchard.]

Translations from the German.

PATHOLOGY AND THERAPEUTICS IN OPHTHALMOLOGY. [Taken from Prof. A. Nagel's *Jahresbericht ueber die Fortschritte und Leistungen im Gebiete der Ophthalmologie*, and from other sources.] By. S. POLLAK, M. D., Surgeon of the Eye and Ear Infirmary of the St. Louis Hospital.

DISEASES OF THE IRIS.

WECKER (Greefe und Sœmisch) discusses in the chapter on diseases of the Uvea-tractus, Iritis, and classifies it:

1st. *Simple plastic iritis*, affecting chiefly the posterior surface.

2d. *Serous iritis*, affecting the anterior surface.

3d. *Parenchymatous and suppurative iritis.*

(The rationale of this classification is based entirely upon its pathologico-anatomical character. But the etiology requires a further division, viz.:

4th. *Syphilitic*—gummy—iritis.

5th. *Rheumatic* iritis.

6th. *Gonorrhœic* iritis.—S. P.)

W. never saw iritis follow gonorrhœa directly without having been preceded by arthritis, especially of the knee. It is assumed that 65 per cent of iritis have a syphilitic origin.

The *treatment* is of necessity not the same in these various forms of iritis. Mydriatics are indispensable in all, with more or less frequency and strength.

In the plastic iritis are leeches, mercurials, warm fomentations and opiates indicated, and above all, *rest*, not only of the iris, but of the whole body. In high tension evacuation of the humor aqueus may become necessary. If adhesions have formed which resist mydriatics, iridectomy may have to be resorted to, but he rejects corelysis entirely.

In serous iritis mydriatics not more than two or three times a day, but the action of the skin and kidneys has to be increased by appropriate remedies—iod. potass (tonics); no vesicants. Here also, when anterior synechia is threatening, paracentesis may be practiced, and the escape of the humor aqueus kept up for several days.

But the most prompt and energetic treatment is required in parenchymatous and suppurative iritis, especially if of syphilitic origin. Mercurials are the most reliable remedies, chiefly in

form of inunctions, the hydrag biniodid; *hot* fomentations are always followed with good results: rarely is iridectomy admissible.

MOORHEAD (*British Med. Jour.*) mentions a case of *Iridodialysis* brought about by a violent contusion. About one-sixth of the periphery of the iris was detached on the temporal side. No hemorrhage in the anterior chamber.

The treatment consisted in immediate instillation of atropine and the application of a compressive bandage. In two hours the pupil was dilated to its maximum, and the dialysis almost invisible. This treatment was continued eight days, and union by first intention was complete. Evidently mydriatising brought the rent edges in apposition and effected the union.

HOCK (Wiener Klinik). *Iritis specifica* is not often seen by syphilologists, but very frequently by oculists. Thus in Siegmund's Clinic, 1 per cent; in Hebra's, 3 per cent; in Fournier's, 3 to 4 per cent of cases of syphilitic iritis among their numerous syphilitic patients.

Gummata of the iris are pathognomonic of syphilis, yet many cases of syphilitic iritis are without gummata.

Syphilitic iritis constitutes almost one-half of all the forms of iritis. Complications with turbidity of the vitreous are very frequent; they veil the fundus, and may be mistaken for retinitis, which itself is not of rare occurrence.

Therapy.—Mercurial inunctions are the most effective and reliable of remedies. The substitution of subcutaneous injection of calomel found few imitators.

Iridectomy may become necessary, but must not be attempted ere a remission of the inflammation has taken place.

NETTLESHIP (*Brit. Med. Jour.*) made clinical notes of the analysis of 70 cases of iritis, especially as to the relative frequency of syphilis and rheumatism as causes of the disease. In 30 cases (42 per cent) were decidedly secondary syphilis; in 23 cases (33 per cent) it was found in individuals who had suffered from rheumatism or arthritis themselves, or where near relatives had presented such a diathesis.

Among the 30 cases of syphilitic iritis there were 6 who had iritis 20 years before, in none of which had relapses occurred; 23 were seen in the acute stage—only in 4 were gummata; in 10 both eyes were affected within three or four weeks; in 10 others three months had elapsed ere iritis manifested itself in one eye; in 16 cases the time between the appearance of the primary sore and iritis was never less than two months, and never more than six months; once, also, while the patient was ptyalized.

The 23 rheumatic or arthritic cases were chiefly caused by chronic diseases of the joints; in 6, characteristic gout lay at the the bottom of it; in 1, gonorrhœic rheumatism; in 2 cases was

the rheumatico-arthritic iritis double, and there rheumatism had affected both sides of the body; 14 cases in men and 9 in women. Relapses could not be traced to posterior synechia.

DROUIN (Thèse de Paris) discusses very ably in a comprehensive monograph the anatomy, physiology and semeiology of the *iris* and *pupil*.

The *anatomical section* contains nothing new, except it be his pupillometer, which, however, does not differ much from that of Folin, Galezowsky and Landolt.

In the *physiological section* the following is especially noteworthy:

The iris has two kinds of motions—the *active* or *functional*, intended to regulate and improve vision, and the *passive* and *harmonious*, which are independent of the act of vision.

To the first category of motion belong the contraction of the pupil on exposure to light, which is controlled by nervous influence and affected by muscular action.

The second category of motion is brought about by the changes in the blood stasis, and may therefore be properly called the *vascular* motion of the pupil. It may be assumed, as a rule, when the vessels of the iris are full, dilated, the pupil is contracted; and the inverse, the pupil is dilated when the vessels are empty or contracted. Hence the pupil contracts in congestion of the brain, in paralysis of cervical sympathetic, or in consequence of irritation of the peripheral end of the trigeminus; these result in paralytic expansion of the vessels of the iris, and consequently contraction of the pupil.

But in irritation of the sympathetic, in ischæmia of the brain in epilepsy, in syncope, in violent emotions, the vessels are contracted and the pupil is necessarily dilated.

In the *semeiological* section, he describes masterly the appearance of the pupil, in various physiological and pathological conditions.

The change of size and mobility of the pupil under many influences of refraction, in diseases of the eye, in cerebral and spinal diseases, in pathological changes of the peripheral nerve-system, in neurotic and mental diseases, in disturbance of circulation and in intoxication.

LEBLANC (Essai sur la modification de la pupille produite par les agents therapeutique,) discusses in a monograph, the changes in the pupil brought about by therapeutic means.

He groups the remedies according to their respective effect upon the iris, from the reproductive astringents, to the irritating, alterative and narcotics; the effect of emetics and anthelmintics is not overlooked.

He discriminates between remedies which act upon the pupil by their *direct* effect upon the iris through the peripheric nerves—as the solanŭ and calabar—and those which influence the pupil *in-*

directly or *secondarily*—such as the emetics, alteratives—the latter acts sometimes by removing the cause, which kept the iris in a pathological state, and sometimes by bringing about conditions relating physiologically with mydriasis and myosis.

In all conditions which cause *depression*, such as anæmia emesis, syncope, spasms and convulsions, mydriasis is found while "sthenic stimulants," sleep, cerebral hyperæmia will cause myosis.

There is lastly a third kind of effect produced mainly in either the nervous system in general or on the cerebro-spinal, or sympathetic in particular. The changes in the iris correspond then generally with the changes in the circulation.

The chapter upon the peculiar effect of certain medicines can only be briefly refered to.

Astringents given internally—Tannin, carbolic acid—cause myosis (except lead poisioning which causes dilatation). Mydriasis occurs in mercurial cachexia; myosis in iodine poisoning and from cantharides; emetics—as tart of ant. ipecac, apomorphin, also causes mydriasis, on account of the nausea; curare brings about myosis; chloroform and æther in complete narcotization causes myosis; in the preceding or exciting stage mydriasis; carbonic acid gives rise to myosis; chloral, like morphine, acts as a hypnotic, and causes myosis, but in large doses it causes mydriasis.

DE WECKER (Gazette des Hopituax 1879,) *and Med. Times and Gazette)*

The semeiological value of mydriasis and myosis.

The functional changes of the iris, dilatation and contraction may be of great consequence in the diagnosis of the diseases in which they are met with; and the exact analysis of their details is of importance in relation to the recognition of the causes that have produced them.

Mydriasis is a concomitant symptom of paralysis of the third pair of cranial nerves—motor ocular. In these cases however it is not complete, for a still greater dilatation may be produced by atropia or duboisia. Mydriasis therefore, is not solely under the influence of the third pair, complete dilatation of the pupil being the result of paralysis of the common motor ocular, and of stimulation of the fibres of the great sympathetic, which is the dilator of the pupil. Mydraisis may therefore be of a *paralytic* or of a *spasmodic* origin. Mydriasis which results from *paralysis* is symptomatic of a *cerebral* lesion; while *spasmodic* mydriasis appears in affections of *spinal* irritation. Besides these two distinct classes it often happens that an irritation primarily cerebral may exert its maximum influence on the sympathetic system. Traumatism may produce both excitation and paralysis; i. e., paralysis of the common motor ocular and excitation of the sympathetic. In children mydriasis is very often due to spinal excitation; to in-

testinal worms, to masturbation; it appears also in the initial stage of hysteria and epilepsy.

The treatment of mydriasis must evidently vary according to whether it is paralytic or spasmodic. All mydriasis of paralytic origin are generally accompanied by a paralytic lesion of the *ciliary muscle*, while spasmodic mydriasis leave this muscle of accomodation intact. It will therefore most generally suffice to investigate the *power of accommodation* in order to determine whether the probable cause of mydriasis be paralytic or spasmodic. If the patient presents no disturbance accommodation the cause of mydriasis is spinal; while if the accommodation is not preserved, the cause is cerebral. Disturbances of accommodation are easily recognized. Thus, the subject of hypermetropia, not being able to accommodate the eye regularly, is unable to see distinctly, whether near or at a distance; in emmetropia there is no clear perception of near objects; in myopia, reading is possible only at the punctum remotum. One or other of these conditions, will indicate a cerebral lesion as the cause of the mydriasis. All mydriatics complain of the dazzling produced by light, dependent solely on the dilatation of the pupil; but this must not be confounded with the disturbance of the accommodation.

Mydriasis of *spinal* origin is a symptom of great value in prognosis and often so in diagnosis of these affections. It may be an anticipatory symptom of locomotor ataxy, or of general paralysis, though in these affections it is only transitory. The sole admissible indication seems to be the dropping into the eye a solution of eserine or pilocarpin. We must then observe how long the thus induced contraction lasts, the interval of each instillation should be made longer than the preceding one, according to the duration of its effect. If no change is observed, this scarcely palliative remedy should be abandoned and the continuous electric current may be tried.

Myosis presents itself in two forms entirely analogous to those of mydriasis, a spasmodic form, by the excitation of the third pair; and a paralytic form, dependent on the sympathetic. The same effects on the accommodatory apparatus are also observed. The paralysis of the fibers of the sympathetic not influencing the ciliary muscle, while the spasmodic irritation of the common ocular motor nerve, gives rise to disturbance of accommodation. Spasmodic myosis is symptomatic of cerebral irritation, and the paralytic form depends on spinal affections. Paralytic myosis is especially of great value. A patient who as yet has presented no manifest sign of locomotor ataxy is the subject of very marked myosis. If this be due to ataxy, a remarkable fact is observable. He is still able to contract the pupil a little more than it is already. The iris, however, does not contract when the eye is submitted to an oblique light; but such contraction takes place when the patient while looking at a distant object, is desired to look at

near ones, that is, when he is caused to put his accommodatory power into activity.

Paralytic myosis may also arise from compression of the sympathetic by a gland, a goitre, or a tumor, and in this case it may be unilateral, ceasing when the compression disappears.

Not much is to be hoped for from treatment in myosis.

Translations from the French.

EXCERPTS FROM LATE FRENCH JOURNALS. [Translated for the JOURNAL. By Dr. A. H. OHMANN-DUMESNIL.]

MALIGNANT PUSTULE.—Dr. Dumolard, after a careful study of the subject, has come to the conclusion that the malignant pustule is of two varieties, having the same cause, but differing in their effects, in so far that the one is merely a local affection and the other a "systematic" infection. The differential diagnosis is simple enough—the constitutional variety occurs in subjects enfeebled by excesses, in the aged, and in young persons of a lymphatic or scrofulous habit of body. Furthermore, the pustule has no zone surrounding it, but the color of the tissues is dull, and there is œdema. The local pustule occurs in robust and sanguineous subjects, and is early characterized by a zone of a bright, rosy hue, which is sometimes violet and even cyanosed in appearance. This variety of pustule does not endanger the life of the patient.

The author concludes that in a robust constitution, reaction takes place at the site of the lesion, and an impassable barrier to the passage of the virus springs up; in other words, that nature here does what the surgeon accomplishes with the caustic in infectious forms of malignant pustule.—[*Lyon Medical*, July 13th, 1879.

GENU VALGUM—DISSECTION AFTER OPERATION.—A case in a child ætas three years and six months, was operated upon by forcible binding, followed by an immobilizing bandage. Death caused by diphtheria, one month after operating, afforded an opportunity of dissection. The *resumé* of the case is: Knee bent inwards, due to rachitic flexure of tibia immediately below the head. Lesions produced by operation; epiphysial separation at *outer* condyle only of femur; slight arthritis.

A former dissection of a similar case presented lesions of the same general character.—[Ibid, July 10th, 1879.

HYSTERICAL AMBLYOPIA.—The patient, a young lady at a boarding school, had always menstruated regularly, and never had any nervous attacks. One morning she awoke totally blind. On examination, cutaneous anæsthesia was found, but no lesion of the eye discoverable with the ophthalmoscope. It was pronounced hysterical, and treatment immediately practiced, metallotherapy being practiced at first, with slight improvement. Complete recovery was the result of a series of applications of statical electricity. The authors consider the case peculiar in the fact of both eyes being affected, and of a total blindness existing.—[*Progrés Médical*, July 12th, 1879.

GASTROTOMY IN INTESTINAL OCCLUSION.—This is looked upon with favor by the Society of Surgeons, Paris. It has been practiced while the patient had an acute attack of peritonitis, with a pretty rapid recovery. Other cases almost as alarming have attained equally good results. The diagnosis must be very conclusive and distinct, before this operation is resorted to. Should there be perforation of the intestine, a drainage tube may be inserted, although no hope of recovery can be entertained.—[Ibid, July 19, 1879.

Translation from the Spanish.

GASTRO-ENTEROTOMY IN A CASE OF INTESTINAL OCCLUSION. [Translated for the JOURNAL by Dr. A. H. OHMANN-DUMESNIL.

Dr. Miguel Nunez Rossie (*Cronica Medico-Quirurgica de la Habana*, June, 1879,) gives an account of a very interesting case which, after a preternatural anus had been formed, became normal. Ramon Valdēs, a mulatto, aged twenty-four, of low stature, and a tobacconist by trade, had always enjoyed a good general health. He passed the night of October 25, 1877, fishing on the sea-coast; here he was seized with a violent colic. His bowels could not be relieved, the pain continued and he began to vomit. Enemata were given; also nourishing articles by the mouth. These latter he vomited and remained in this state for three days. On October 29th Dr. Rossie saw him for the first time and the patient presented all the clinical signs of violent colic, the impossibility to defecate, strong pains in the belly causing him to assume various positions and incessant vomiting.

The diagnosis — intestinal occlusion — was soon arrived at, the large and uniform elevation of the abdomen, the general distribution of pain and other signs pointed to the locality as

being probably near the stomach. This was confirmed by the large quantity of liquid admitted as enema and exploration *per rectum*. No intestinal cicatrix, strangulating bands, peritoneal adhesion, compressing tumor or any similar cause could be admitted to exist.

Medical treatment was first resorted to: cold bath; small pieces of ice taken internally; ice on the belly; drastics, nux vomica; oily enemata; purges of soap; chloral, bi-carbonate of soda and tartaric acid; and, as a *dernier resort*, the hypodermic injection of morphine. This lasted till the 31st; the debility increased; face became changed and pinched; vomiting changed in character and finally ceased; animation ceased; dyspnœa, and the pulse becoming feeble. The case was becoming desperate. On November 1st gastro-enterotomy (of Nelaton) was resorted to; the incision on the right side, measuring 8 cm. and parallel to and about 1 cm. above the crest of the ilium. The large intestine was found distended with gas; a preternatural anus was made beyond the ileo-cæcal valve (according to the advice of Eesnier, Velpeau, Dolbean, Ad. Richard), a large quantity was emptied from the bowel and the abdomen immediately became depressed, the patient at the same time experiencing great relief.

After the operation .01 grms of morphine were administered; iced wine internally and cold external applications. He had no fever, and began immediately taking cold animal jelly and beef tea, and soon after broiled meat, etc. Cicatrization began immediately, and in thirty days was complete. Fifteen days after the operation the patient had a passage of semi-solid material which was not examined. Normal defecation was interrupted until the end of December, when by means of large and frequent enematas normal passages were obtained and became regular. The normal fæces being reëstablished on February 28, 1878, Malgaigne's operation for the cure of artificial anus was practiced. The patient, after the operation, was given opium in large doses. The wound closed by first small fistulous openings; but at the date of writing (April, 1879,) the patient had only one small opening, about 2 mm. in diameter, it being dry and passing none of the contents of the intestines. A truss is worn over the site of the operation and the patient is actually getting fat.

Proceedings of Medical Societies.

AN ADDRESS DELIVERED TO THE MITCHELL DISTRICT MEDICAL SOCIETY. By SAMUEL CHARLTON, M. D., of Seymour, Ind.

GENTLEMEN OF THE MITCHELL DISTRICT MEDICAL SOCIETY:

Another year, with its responsibilities, trials and cares has passed away since last we met. During the year, which doubtless seems very short to those of us who met at West Baden Springs, on our last anniversary, the medical world has been marching onward in her noble work; and it is but just to claim that the Science of Medicine has kept pace with the advanced movement of Art and Science in other departments. If this be true, let us inquire if we have done all we could to elevate the standard of our profession; and if not, let us put our shoulders to the wheel and let our medical brethren know that we are a living body, able and willing to contribute something in this noble cause. New light comes forth from every branch of medicine, and while no one of us may be able to keep fully up with the progress being made in all the departments, we should at least keep in sight of the advanced guards in some of the departments, so that when we come together at our regular meetings, we may come up bearing the fruits of our labors, fresh and new, and present them to the Society for the good of all. With this end in view, the promotion of scientific medicine, it matters not what the boasting empiric may say, or the cunning quack may devise to cover up their ignorance, or protect themselves in their nefarious practice; for the time is near at hand, when the people will draw the distinction between the worthy and the unworthy. Thus consecrated to our work as a Society, we could look forward to our meetings with increased interest, knowing that the harvest is near at hand, when the golden grain will be gathered, not by a few laborers, but by all of us working together for the common good, and the elevation of scientific medicine.

Thus organized and united as a band of brethren, belonging to the great brotherhood of our beloved profession, whose protecting arm will be thrown about us, we will go on from one degree of advancement to another in the scale of professional growth and influence, until we shall have arrived at the fullness of manhood. If there be a one amongst us who is satisfied with his present status, whose heart is not in sympathy with those whose watch-

word is onward and upward, who is incapable of beholding the beauties or enjoying the grandeur, as we ascend the hill of science and drink of her sparkling waters by the wayside, let him step out from our Society and no longer hinder our progress. I trust, however, there is no such one. The presence and the association with us of so many venerable members of the profession in this part of the State, is enough to inspire the younger members of the Society with renewed zeal, energy and self-denial. This being the sixth anniversary meeting of this Society, and believing that we are now on a permanent basis, it seems to me eminently proper that we take a retrospective view of our past history.

The Mitchell District Medical Society was organized Feb. 22d, 1874. Dr. Benj. Newland was elected first President; Dr. S. A. Radideu, of Bedford, second President; Dr. E. D. Laughlin, of Orleans, third President; Dr. Joseph A. Stilwell, of Brownstown, fourth President. Dr. J. A. Ritter, of Orangeville, fifth President; Dr. S. H. Charlton, of Seymour, sixth President.

Dr. G. W. Burton, of Mitchell, has served us most faithfully all these years as Secretary, and to his untiring efforts and zeal, the Society owes much of its growth and vitality. In fact, the conception of our organization is due to Drs. G. W. Burton and H. L. Kimberlin. This is now the twentieth meeting in about five years, and since our organization we have furnished to medical journals a large number of valuable papers, some of which have been sought after by distinguished members of our profession abroad.

This Society has furnished twenty-six members to the American Medical Society, which is probably the largest medical society in the world, and whose published transactions may be found in every country where the English language is read. This Society is composed of members from Lawrence, Monroe, Owen, Orange, Washington, Jackson and Jennings counties, and numbers one hundred and twenty-three members regular and honorary.

The Tri-State Medical Society of Indiana, Illinois and Kentucky, which ranks second only to the American Medical Society in this country, can trace its origin to the Mitchell District Medical Society.

Since our organization, we have lost seven of our members by death, to-wit: Drs. Creed T. Wilson, M. D. Crim, J. W. Pearson, F. Lee, Henry Lingle, A. W. Gray and T. P. Waters. Some of these brethren were pioneers in the practice of medicine in this part of Indiana, and others of them died in the pride of their manhood, and all of them were devoted to their profession.

I regret very much that I am unable to furnish the Society at this time, a more extended history of the lives and services of these departed brethren, but I can assure you that it will be

attended to in the early future. No more will they meet with us, but we will cherish their memories as faithful and honored members of our profession, and while we recount their many virtues, our hearts will go out in sorrow and sadness, and in profound sympathy for their bereaved families. In their deaths we are reminded that we are all rapidly passing away, and ere long our own "Footprints on the sands of time" will alone be seen. Such lessons of mortality should be lessons of instruction to all of us, animating us to good deeds and lofty purposes, and while we are living actors in the realities of life, we should redeem the time by earnest, devoted efforts to do good to all around us, so that our memories may be cherished as benefactors of our race, and our influence may impart inspiration to those who may soon occupy our places. Thus we should let our light shine as a blessing to our race, and honor the profession of our choice. If we are true and faithful to our calling, we will find an abundance of hard work, and sometimes but little rest; and at times when we are conscious of having done our duty faithfully, our services will not be appreciated. Yea, even condemned, and we may go about the streets discouraged and gloomy; but ere long the darkness and clouds will have passed away, and the rays of the noon-day sun will dispel the gloom. Some one who has been dangerously ill, over whose couch we have watched many anxious days and nights, when there seemed but little hope, has now so far recovered, as to understand how faithfully and skilfully we administered our remedies, and he reaches forth his trembling hand, and with quivering lips expresses his gratitude. So it is with us; we are stimulated to endure hardships, exposures and trials until our bodies are worn out.

I do not say it is our duty as physicians to forego all the pleasures of this life, and wear ourselves out prematurely, as is very often the case; but rather that we should be faithful to ourselves as well as our patients. In the course of human events it has become evident to the observing physician, that his most sacred duty is to prevent disease as far as possible; and it must be very gratifying to us all to observe this growing interest manifested by physicians all over our beloved country on the subject of sanitary science. Those of us who were students of medicine twenty-five or thirty years ago, were taught much about curing the disease, and but little on the subject of preventing it.

It is true that this higher duty of the physician had been recognized since the early history of medicine, as a science, but how few were animated by a sense of their obligations as the guardians of the public health, the masses being content with their efforts to cure disease, and receive the pay for their service.

It has been stated that prior to the discovery of vaccination by Dr. Jenner, about four hundred thousand persons were either destroyed or disfigured by small-pox annually, and that about two hundred years ago, ten thousand persons were lost annually to

the British Navy by scurvy alone, and now this disease is scarcely known, and the deadly ravages of small-pox are but little dreaded. Much also has been done to prevent the spread of epidemic disease throughout the world, and it is but just to say that wherever pestilential disease has counted her victims by thousands, and the piteous cry of suffering humanity has gone up for help, the cry has been heard by physicians in all ages; and although unable to stay the ravages of the pestilential monster at all times, they have rushed to the rescue of suffering humanity, and in many instances have sacrificed their own lives. Only last year, during the yellow fever epidemic in our own beloved country, we had a striking illustration of this truth.

Through the untiring efforts of physicians, Boards of Health have already been established in twenty of the States comprising the Union, and we are determined that no State Legislature, no matter what its politics may be, or whether its Governor wears blue jeans or broadcloth, shall have any rest until every State shall have its own Board of Health. No man should be elected to make our laws who is not enlightened on the subject of sanitary science. May the Lord have mercy on all our Legislatures that have refused to hear our petitions, and aid us in our noble efforts to save the lives and the health of the people; and while we are praying for them, let us look about for men of more intelligence to take their places. Dr. Bowditch, of Boston, the great leader in sanitary science in this country, says that it required a thirty-two years' war to conquer the Legislature of Massachusetts, but now they are reaping the fruits of the contest, and what we want to do in Indiana is to enlist for thirty years, or during the war. From the cradle to our graves, the civil law affords protection to our property and persons, and our characters, but in about one-half of the States the citizens are not protected as they should be against disease and premature death; and it is my opinion, based upon statistical reports of careful observers, that by a properly organized and effective sanitary system in the State of Indiana, the death losses might be reduced fifty per cent. in five years' time, saying nothing about the loss we sustain in our productive wealth. But in order to accomplish such a desirable end, we will want not only a Board of Health, but money to carry on the necessary work; and in order to accomplish much in so short a time, we must all enlist in this glorious work, and educate the people on the subject. For this purpose we should distribute reports and lectures on sanitary science, so as to reach every intelligent family in the State.

The inaugural address of Dr. J. Marion Sims, as President of the American Medical Association, delivered at Philadelphia, June 6th, 1876, contains the following statement, which covers the whole ground in a few words:

"State Medicine, as it is called, is comparatively a new science, nd is now occupying a large share of public attention, both at

home and abroad. Medicine has done much for the relief of individual suffering and for the prolongation of life; but now giving aid to governments and municipalities, it is instituting organization for the prevention and suppression of disease, on a scale of efficiency and grandeur never before known."

State medicine does every thing necessary to protect the health of communities and States. It investigates the air we breathe, the water we drink, the food we eat, the clothes we wear, the fuel we burn, the houses we live in, the soil we cultivate, the habits and industries of life, the origin and nature of epidemics, the method of their transmission, and the means of their suppression whenever found. From these statements any one can understand the objects of State Medicine, and it matters not whether diseases originate from the air, the water, or from our food, or from other causes enumerated or not enumerated, or whether it comes in the sporadic, endemic or epidemic form, or whether it be infectious, contagious, specific or zymotic, for the whole subject, and everything that pertains to the health, happiness and prosperity of the people would receive due consideration. My brethren, let us not be discouraged because of our disappointments in the past, as so important an object is deserving of our best efforts, and when once attained we will have established a department that will reflect honor on those who have spent their time and their money for the public good. The medical profession of the State, with few exceptions, have not taken hold of this matter as they should have done, and what we want now is coöperation to insure success.

In conclusion, gentlemen, I wish to call your attention to some extracts from a report I presented to Dr. G. W. Burton, who is a member of the Health Commission of this State, which I believe are based upon facts: "In Jackson county we have about one hundred square miles of rich bottom lands that are subject to overflow in times of high water, and a considerable portion of this land is either covered with water or is too wet for cultivation, and a large portion of them might be drained and brought into cultivation and would then be very productive and valuable. They are now worthless, and very obnoxious to the health of our people. The probable cost of physicians and medicines, including patent nostrums, I have estimated at one hundred thousand dollars annually, being equal to the amount of taxes paid by this county for the support of the government. By systematic drainage, together with strict sanitary regulations, about fifty per cent. of all our sickness might be prevented, thereby saving fifty thousand dollars annually, saying nothing of the loss of time and losses from premature deaths."

[TO BE CONTINUED.]

MADISON COUNTY (ILL.) MEDICAL SOCIETY.

The first quarterly meeting of the Madison County Medical Society was held in Troy, Ill., in the Presbyterian Church, on Tuesday, July 29th, 1879. The President, Dr. J. L. R. Wadsworth, of Collinsville, called the Society to order at 11 A. M.

Members present—Drs. J. L. R. Wadsworth, P. S. Weidman, T. B. Spaulding, T. P. Yerkes, S. E. Bucknell, A. M. Powell, Geo. H. Dewey, H. M. Sabin, E. W. Feegenbaum, Chas. R. Oatman, H. L. Judd, J. M. Armstrong. Visiting—Dr. Thos. F. Rumbold, of St. Louis; Dr. John B. Knœbel, of Highland; Dr. Ebenezer Miller, of St. Jacobs; and medical students W. M. Bowler, F. S. Halsey, C. E. Hernsberger and W. H. Scott, Jr.

The essayist, Dr. T. B. Spaulding, presented his paper upon tobacco, which was referred to the Committee on Publication. The essayist stated that tobacco and alcohol might be properly presented as almost identical in action, and shown to be largely accessory to each other vices. It was classed as a narcotic poison, wholly innutritious, nauseous, noxious, and a depository of the deadliest poisons. The essayist very boldly asserted that one of the effects of its use was to produce cancer of the lips and tongue. It was also affirmed that it was the most prolific, if not the only source, of delirium tremens. It was stated that the ancients were unacquainted with these terrible terrors of the inebriate, and the records beyond the discovery of tobacco (1560) reveal no case of *mania a potu*. It was regarded by the essayist as one of the deadliest enemies to the human family, and a call was made to all scientists throughout the world to raise their voices against its popular use.

AFTERNOON SESSION.

The Society was called to order at 2 P. M., President Wadsworth in the chair. Minutes of the last meeting read and approved.

Dr. Thos. F. Rumbold then favored the Society with a few remarks upon the manner of reporting societies' proceedings, which the Secretary will endeavor to avail himself of.

The Board of Censors having reported favorably upon the applications of Drs. Humbert, Beernass and Knœbel, they were duly elected.

Dr. H. M. Sabin, of Edwardsville, Ill., then read an essay entitled "Unrequitted Toil," which was referred to the Committee on Publication.

Drs. Lemen, of Upper Alton, and Pearce, of Alhambra, being unavoidably, and Dr. Pigue, of Edwardsville, also absent, the first three subjects on the programme were passed over.

Dr. S. E. Bucknell, of Greencastle, read a paper on puerperal convulsions, which was referred to Committee on Publication.

A motion prevailed that a committee be appointed to draft resolutions in reference to the deaths of Dr. C. A. Glass, of Upper Alton, and Dr. John S. Dewey, of Troy, members of this Society. Drs. Armstrong, Feegenbaum, Spaulding and Yerkes, committee.

Subject for discussion—"Summer Complaints in Children."

Dr. Powell, of Collinsville, opened the debate by saying that summer complaint is essentially, indigestion. The remedies for indigestion are the proper remedies for summer complaint. Hot weather and improper food are the chief elements in the causation of the disease. Teething does not produce it, but may aggravate it in the sense that any irritant will lower vitality; but while this is a fact, it is also a fact that teething, being a natural physiological process, rarely even aggravates the disease. It therefore follows that the common practice of scarifying the gums, under the impression that this will relieve the disease, is a mistake as a rule, and ought to be abandoned; while in rare cases it is a justifiable procedure not to cure summer complaint, but to relieve tension or turgescence of the blood vessels, and this relieves reflex irritation of nervous centers. The indications for treatment are, to lower the temperature of the patient's surroundings; the absolute withdrawal of all food for a time; the administration of antacids, such as lime water, to which may be added small quantities of spiced syrup of rhubarb, and, if necessary, to control pain, small doses of paregoric, bicarbonate of soda, etc.; to aid digestion, pepsin and bismuth, to which may be added minute doses of calomel and ipecac; proper diet in proper quantities—the milk of the healthy mother, or nurse who carefully conducts herself as to diet, habits and *temper*. In the absence of this, the Swiss condensed goat's milk, properly diluted, and always mixed with pure water. Gastritis, colitis and brain troubles, being results and not essential parts of the disease, must be met by appropriate treatment to each.

Dr. Armstrong, of Edwardsville, said that he had given summer complaint in children considerable attention during the past few years, and had come to the conclusion some time ago that the disease under discussion was due almost, if not entirely, to excessive heat. Indigestion was the result of heat, summer complaint the result of indigestion. An elevated temperature and quickened circulation were invariable attendants upon a looseness of the bowels in children. Tinct. of aconite root in diminished doses, often repeated, was given universally and continuously to all patients; bismuth, pepsin, lactopeptine and ingluvin were regarded as the chief reliances; mercury, opium, ipecac and

carbolic acid, in small doses, often repeated, and in a pleasant and palatable form, as the circumstances of each individual case might require. Every case has features entirely its own, and as a matter of course required its own peculiar treatment. On the subject of food, he had relied upon that at command, and endeavored to make the child digest it. In the absence of food, had used Ridge's food with excellent results. He endeavored to make the mothers nurse their own children. If the excuse was given that they did not have sufficient, he directed his attention to the mother's breasts, and directed a poultice applied to them made of buckwheat flour and buttermilk, which always produced a sufficient supply. He did not wish to be asked how such a procedure produced milk in the breasts, but stated it as a fact that could be verified at any time.

Dr. Weidman, of Marine, said that the cases that came under his care were usually between the ages of four and twelve months. The remedies he used were tinct. of aconite, ingluvin, subnit. of bismuth, ipecac and tinct. of nux vomica, as they were indicated. He also used a weak solution of bicarbonate of soda as a drink. In some cases, quinine inunction.

Dr. Spaulding, of Troy, regarded summer complaint essentially an indigestion, induced by any morbific or irritating influence that may operate upon an already enfeebled constitution. Whatever the efficient cause, it eventuates in deranging the chemico-vital changes involved in that sensitive train of transitions ever operative in life's laboratory under the name of digestion. Summer complaint in children, is purely a perversion and derangement of its digestion. The causative influences effecting the phenomena are *predisposing* and *exciting*. Of the former may be mentioned ill ventilation, bad air, miasmata, damp location, excessive heat and insufficient food; these directly debilitate and enfeeble the functions of life. Then coöperating with, or following these adverse influences, are *exciting causes*, among which may be mentioned sudden exposure to cold, irritating food, the rind of stale or unripe fruit, and by no means least of exciting causes may be mentioned dentition, during which process the congestion of gums is often great, and the sensibilities of the nervous system rendered most acute, and this irritation, superadded to an already enfeebled system, deranges the whole digestive process. Originating and eventuating in this, we have summer complaints identical in essence, differing only in degree, requiring different treatment, it is true, precisely as do the separate successive stages of pneumonia or other diseases. Perceiving "what's the matter," what shall the doctor do? Why, put the little house in order, restore the digestion, remove all adverse influences, soothe the irritable alimentary mucous membrane, prescribe proper food, and bathe the little patient in pure air and sufficient sunshine, and lance the gums only when necessary—then freely lance them.

Dr. T. P. Yerkes said, that if the process of dentition is the cause of cholera infantum, the Almighty made a great mistake in permitting the evolution of the teeth to take place during the period of infancy. He most positively dissented from the opinion that teething was the cause of summer complaint, but that under certain conditions it may aggravate the disease, he was willing to admit. He unhesitatingly announced his conviction that heat and atmospheric poisons produce it in children who have delicately organized nervous systems and abnormal sensitive gastro-intestinal mucous membranes. The pathology of the disease he believed to be as follows: The delicate and sensitive ganglionic nervous system is rendered acutely sensitive and irritable by prolonged high solar heat, which in time gives rise to derangements of digestion, and this to hyperæmia of the gastro-intestinal mucous membranes to congestion, and if not controlled, to inflammation and death from inanition. The treatment must, of course, be graded according to a variety of conditions. When the attack is ushered in suddenly, usually at night, and consists of vomiting with large serous discharges, he prohibits the use of all food except iced water or iced egg water, which is allowed in teaspoonful doses, *ad libitum*. Calomel in small doses, from the twentieth to the 10th of a grain, placed dry on the tongue and washed down with a spoonful of iced egg water. By this means the vomiting is often allayed in a few hours. In some desperate cases where everything else has failed, he has seen the symptoms yield readily by placing the child in a cool pack, at the same time applying ice to the head. When there is putrefaction taking place in the contents of the stomach, he administers carbolized lime water, which corrects and prevents the putrefying changes. For the intestinal flux he discards entirely the use of all astringents, believing them to be pernicious in the extreme. Believing as he does, that the pathology is as before stated, a rational treatment consisted in allaying irritability of the ganglionic nerve centers, and by the use of such remedies as promote digestion and allay irritation of the gastro-intestinal surfaces. For this purpose he has found nothing to act better than either the sub carbonate or sub nitrate of bismuth in large doses combined with pepsin, and if indicated with an anodyne and aromatics.

Dr. Oatman, of Collinsville, believed summer complaint and cholera infantum to be two separate and distinct stages of the same disease, and should be treated differently. The exciting causes he believed to be malaria, teething, indigestion and heat, in the order named. To meet these different causes he used calomel, Dover's, bismuth, pepsin, lactopeptine, creasote and various antacids and astringents. In the second stage of the disease he used a combination of acacia, aq. menth, syr. zinziber, spts. terebin, tinct. opii camph., always scarifying the gums when

badly distended, and using diet that is easily digested and assimilated.

Dr. Wadsworth said that sixty per cent of all the children that die the first year of their existence, find the cause in some form of bowel affections, while only twenty per cent are found for the *second summer tradition.* How many of the fatalities can be placed to legitimate causes and how many to environment of ignorance, we leave you to bring out from the past of your experiences. There are no more unpleasant fields to look upon in all the associations of the physician, than the mismanagement of these little ones. If the mass of the people could be brought to a sudden knowledge of these abuses, what a wave of emotion would sweep over this country. The plague, cholera and yellow fever would stand aside to make room for the leaded captions of warning not to destroy our little innocents. Viewed from this standpoint, the first thing to lay hold on in these cases is the sanitary conditions. You have clearly set forth the pathological conditions in these cases, and have indicated the causes, among which heat and force very properly stand first; then let us address ourselves to these matters; if heat be the cause, remove it; take the little patient out of the *hot feather pillows* and lay it on stretched canvas (a cot for instance), where the currents of air can carry off the heat from the under surface of the patient as well as the upper. Do not allow it to be baked on the under side while the nurse is fanning the upper side. If the weather is extreme, like two weeks ago, suspend a couple of tin buckets with pieces of ice in them, near the ceiling, or if the ice is not at hand, suspend on a line stretched across the room, a couple of sheets wet with water, and allow them to evaporate, and in so doing produce cold, or if the weather be as it is today (July 29), marked with hot midday and cool nights, a variance of 20° or 30°, see that the patient does not get too cool by throwing off the covering during sleep. This is an active cause of trouble. See that night clothing is provided with drawers, body and sleeves all attached, and sufficiently warm not to require covering; then there will be no risk in this direction. Again, look to the room management; have no visitors, do not spare the visitor nor allow the patient to suffer from annoying questions; clear the room and have every one still and quiet. If we set the example it will be more likely followed. Of all the attention paid to these little ones, the worst is this knee trotting. If we were suffering from colic, how naturally we would seek a still, quiet place, lie down, and with our limbs flexed on the body try to rest. Compare this with the management given by nurses generally. Here is a broad field that we cannot take the time to review; to discover the cause and remove it is in many cases all the treatment necessary. Over feeding is a great evil; with very many, let whatever be the trouble, they nurse the child; if it be distressed with hunger or its little stomach suffering disten-

sion with lacteal fluid, the remedy is all the same; in fact, be it wind or water, joy or spunk, give it the breast. In the quality of the food given, there is often found an excess of fat, sugar or casein. The former takes precedence when artificial food is used, such as cow's milk, cream, condensed milk, etc.; they are first to be sufficiently diluted, and the liability to the production of fatty acids results. Starch foods (which produce sugar in excess) are common. Find the cause and remove it. Be explicit in your directions; we must remember that the moment we begin to question the quality of the food, that moment we touch a sensitive point with the nurse and more particularly if she happens to be nursing the child from the breast. One instance to the point. Quite recently I was called to a child suffering with vomiting and purging. The mother was a picture of health and had been more than usually careful of her diet and exercise. My treatment failed to control the morbid condition. The second day I asked the mother for a sample of her breast milk. A few hours indicated an excess of fat. I at once directed it to be drawn from the breast and one-half quantity of barley water to be added and then fed to the child. The child improved at once. Three days later I was called again; symptoms aggravated; prescribed same treatment to no avail; a little later the case seemed hopeless. We finally sat down and went over the management again; all appeared satisfactory until I asked just how much milk and how much barley water she had used the last twelve hours. Here she burst out crying and confessed that she "had not given any barley water this last sickness as she thought her milk was good enough for anybody." The mother was educated then and there and our patient soon convalesced again. With me there is more force in the surroundings of the little patient than any plan of treatment; without these surroundings are corrected, no treatment will prevent at least a chronic inflammation. After they are corrected the remedies suggested are all good and have their place.

[TO BE CONTINUED.]

THE BRITISH MEDICAL ASSOCIATION.

The forty-seventh meeting of the British Medical Association commenced Aug. 5th, at 3 o'clock P. M., in the examination hall at the Queen's College, Cork, Ireland, and was attended by a large number of the profession from almost every part of Ireland, England and Scotland, as well as by several of the most distinguished medical men from European countries and from this country.

The General Secretary of the Association read the minutes of the last annual extraordinary general meeting, held at Bath, and when they had been confirmed, the President, Dr. R. A. W. Falconer (who was very warmly received), then addressed the meeting as follows:—Gentlemen, the period of my presidency is rapidly drawing to a close, and I must soon give up this chair to the President elect, Dr. O'Connor, of Cork. Perhaps, however, you will allow me a few moments before I quit the chair while I lightly touch on some of the more salient occurrences which have taken place in our Association during the past year. It is probable that you will hear some of them in the annual report, but still at the same time I think them worthy of some passing notice from the retiring President. During the time of our first visit to this country it will be remembered that we were under the presidency of the late Dr. William Stokes, whose intelligence, learning and geniality of disposition rendered that meeting one of remarkable success, and is held in affectionate remembrance by those who were present on the occasion. When at Oxford he gave up the chair, his successor, the Regius Professor of Physic, referred with commendable pride to the number of the Association. He said it was a matter of great pride to him that he had been called on to preside over such a number of members as then composed the Association, then amounting to 3,000; but between that visit and our second visit to this country the number of members has more than doubled. We have now the number of 7,800, and we must bear in mind that since that time four branches of the Association have been established, and that the numbers of those branches have formed a considerable addition to our total number. There is every hope, I believe, on the present occasion that this meeting will exceed the one at Dublin, and I am perfectly sure from all we have heard around us, that it will not be a less pleasant or a less successful one. Amongst other things which have occurred during the past year which I think deserving of notice, has been the appearance (in addition to the reports usually read at former meetings of the Association) of one under the auspices of Dr. Taylor on pleuropneumonia, and we have also the promise of an exhaustive

report on the very interesting subject of hydrophobia, which, I believe, will be brought forward at this meeting by Mr. Calendar. Besides this we have had the assistance of Dr. Cameron, who brought forward the question of habitual drunkards, which has now passed into law; and I think it ought not to be forgotten that in the work that has been done by our committee on that subject, our present President of the Council, Dr. A. Carpenter, has been the leading hand. Then we come to another very important question—that of Patients' Hospitals Reform, and there will be an extremely interesting report before you on that subject brought forward by Mr. Timothy Holmes, the mention of whose name is a sufficient guarantee of the importance of such a report. Nor must I leave out that important subject of medical reform. Although it is a changed position in which we are called upon to discuss that question at present, we must not forget that there is a leading spirit on that committee who has sacrificed time, and I may almost say health (though I hope he has not suffered himself in the slightest degree), in promoting the interests of this Association, as well as holding up our great profession, and in the establishment of the principles for which this Association from its earliest day has always contended. I have great pleasure in mentioning the name of that gentleman — Dr. Waters, of Chester. There is another matter which comes home to the natives of this country. By reason of a resolution of the committee of the council, it has awarded its gold medal to Surgeon-Major Reynolds. I need not now go into the question of Isandula—you all have that at your finger ends—but it is a matter of very great pleasure to know that we are able to say here to-day, that he has had that medal awarded to him because he is one of those whose names should be added to the list of heroes who claim as their native soil, what Moore calls "The emerald gem of the Western world." I have simply to commend to your attention my successor. You know him well here in Cork; many of our English associates do not know him so well; but he now claims the noble position in which he is placed, by his known integrity, probity, and general maintenance of the honor of the profession. Besides that, he was the senior medical professor of the Queen's College, and I believe there is no one held in higher esteem than he is among his professional brethren. I am certain from what I know of him that he will discharge the business duties of President of the Association with intelligence, with the greatest care, and with the greatest possible attention to its interests, and that there will be nothing he will have to regret when the year of his office is over. Gentlemen, I have sincerely to thank you for the kindness I have received during my year of office, and I trust the prosperity which has hitherto attended the Association will continue.

Dr. Falconer then vacated the chair, and Dr. O'Connor took it as President of the Association for the ensuing year.

The President, Dr. D. C. O'Connor, of Cork, who was received with great applause, then delivered the following address: He said: My professional brethren, members of the British Medical Association, I wish I could in suitable terms convey to you my deep sense of gratitude for the honor you have conferred on me by electing me to be your President. The gratification which I should feel on receiving this honor is, however, associated with a consciousness of my demerits, contrasting myself with the distinguished men who have filled this chair up to its latest occupant, Dr. Falconer, whose urbanity, courtesy, and high professional rank largely contributed to the success of last year's meeting at Bath; but above all, when I remember that the last and only meeting in this country was presided over by Dr. Stokes, whose name is fresh in the memory of every Irish physician, whose talents shed a lustre on his profession and country, and whose virtues—simplicity, truth and honor—made him the idol of all those who had the happiness of his acquaintance. As I cannot deceive myself with the belief that I owe this elevation to superior learning, or professional eminence, you, perhaps, give me credit for qualities of a less elevated character, which would enable me to represent worthily the dignity and decorum which will be sure to characterize your proceedings. The key-stone of an arch is an important part of the structure, solely because by its position it establishes an equilibrium between opposing forces. The chairman of a meeting exhibits a similar passive resistance in moderating the expression of contradictory opinions and preserving the calm necessary for the discussion of great subjects. Of one thing I am certain, that whatever defects or errors may be seen in the execution of my official duties, they will meet with a favorable construction—more especially from the most distinguished members of my profession. The most charitable critics are those who themselves are beyond the reach of criticism. Some of my predecessors in this chair on occasions like the present, thought well of pointing out circumstances of interest associated with the locality of the meeting. In a few brief words I will follow their example. Though you have not come here for æsthetic enjoyment, still, the surroundings of Cork, which Spencer called the "beautiful citie," must attract your pleasurable notice on every side. This, added to the mildness of the climate, makes the vicinity of Cork an agreeable as well as valuable winter health resort. In this character it is associated with Queenstown and Glengarriff, which has recently acquired a high repute. The sanitary condition of the city is exemplified by the low death-rate, and the gradual disappearance of typhus, which in the last century appeared every seven years; in the early part of this century, every ten years; and now, since the famine fever, we have had but one outbreak of any severity, and that nearly fifteen years since. We owe this to the admirable supply of pure

water, and to an extensive system of sewerage, provided by the corporation. I am far from saying that there is not still much to be done by the sanitary authorities. Pure air and pure water are not useful solely in preventing epidemics; they are also necessary for the preservation of a general healthy condition of the system. It might not be without interest to mention that a few paces from where this meeting is being held, stood Gill Abbey, one of those collegiate monasteries so famous in this country in the eighth and ninth centuries, to which, according to Camden and Venerable Bede, "the gentry of England flocked as to a mart of learning," and "which sent forth swarms of holy men all over Europe, spreading learning and religion." We see some resemblance to that happy period in this meeting, when Englishmen come here to repay, with great interest, any literary indebtedness their ancestors might have incurred. I do not refer to this oasis in Irish history, as families in reduced circumstances display the portraits of distinguished progenitors, but rather to stimulate the present generation to imitation of their great ancestors, and like them to seek distinction for themselves and their country, in the practice of virtue and the cultivation of learning. Though entering late in the race of civilization, if we take this city as affording an example of the general result, we will be found to have made rapid advances in a short time. Many years of this century had passed before any arrangements were made for the education of the poor, especially of the male sex. Now over nine thousand children are receiving gratuitous education—in some instances of the highest order. It may be paradoxical, but it is true, that in these instances it is better than could be obtained for any amount of payment. It is creditable to this city, that it freely taxes itself for the support of a School of Design, and that it is the only city, as I understand, that pays a tax for the support of a Musical Academy. It has contributed a few distinguished names to the role of British artists; in James Barry, Maclise and Hogan; and to literature in Magin, Father Prout (Mahoney) and Justin McCarthy; in both a large number whose reputation was not so widely known. In sympathy with the poor—the highest function of civilization—it will be found that ample progress has been made in this city. Within a very few years, ten different asylums have been established—for orphans, for the aged, or those who have strayed outside the confines of morality in early life. Five new hospitals have been opened, in addition to those already in existence. This has emanated not from humanitarianism or utilitarianism, but from the spontaneous outpouring of Christian charity. I make no distinction between different religious denominations. Happily the barriers which separated these have been removed, and seeing each other from a nearer point of view, men have found good citizenship and brotherly love where they expected to meet aversion or hostility. The same good feeling has been manifested

of late in the courtesy shown towards each other by the different sections of the Corporation—and may we not believe that it is owing to such teaching and example from the affluent, that serious crime is almost unknown in this city, and that for more than half a century no High Sheriff was under the necessity of carrying out the extreme penalty of the law within this borough. Having, I fear, at too great a length referred to the physical aspect of the city which you have honored with this visit, and to the social and moral condition of its inhabitants, as they appear to me, I must proceed to make some observations on the composition and objects of this Association, which must appear trite to all but the most junior members or such of the public as take an interest in our proceedings. When several thousand men, many of them the most distinguished and honored in their profession for genius and learning, are banded together for one common object, we will readily assume that object to be large, comprehensive and benevolent; and what purpose of greater magnitude can occupy the human mind or stir the human heart than the effort to lighten the burden of sickness and misery, and to defer the inevitable death in which we all have a common inheritance. In forwarding this work we follow our instincts as men, obey our duty as physicians, and receive a Divine sanction as Christians. It can then be well understood how so many, leaving their homes, crossing the seas or ocean, have come here to unite in this common brotherhood of benevolence.

I only hope the success of this meeting by increasing our knowledge, and diffusing throughout the entire medical community sound principles to guide our practice, may be the reward of their sacrifices. A hasty survey of the composition of this Association the brilliant genius of many of its members, and their continuous labors from year to year, would lead to a feeling of disappointment, that greater results have not followed, which would place medical doctrines on a firm lasting basis, rendering them free from doubt or controversy. This mode of thinking arises from comparing medicine with the physical sciences, in which all phenomena may be traced to a few general principles. Such complete generalization is not to be expected in the science of vital phenomena, with much multitudinous details, varying under the influence of an equal number of circumstances. Still to this end have been directed all our labors, hitherto attended by an ever-increasing approximation. We are not to reject what is useful because of the garb in which it is presented to us.

Even in physical science, isolated facts were availed of for the benefit of mankind when the theories which explained them were still erroneous. Sailors could navigate their ships before the time of Copernicus, and the movements of the heavenly bodies were understood before Newton explained the cause, while the manner in which this cause acts is still a mystery, and

the greatest mathematicians lament the shortcomings of their most accurate science.

All knowledge appears to be but a fragment of truth beyond our reach. It is so with medicine. We can learn from sacred Scripture, as well as from Homer, the estimation in which our profession was held from the earliest dawn of civilization. If we had no other guide but the works of Hippocrates our art would still be a great boon to mankind. The discoveries of Harvey, Jenner, Hunter, and Lænnec have each after the other added to our stock of knowledge, but did not efface what had previously existed. We are here to follow in their footsteps with light they have shed on our path, and with aids to the investigation of physiological and pathological phenomena which they did not possess. A new point of departure has taken place in the application of the microscope to ascertain the minute structure of organs, and the changes made in them by disease, which has already produced splendid results. It need not, however, be feared that you will not have a sufficient scope for your labors, when the organization and transmission of nervous power is still undiscovered. The limited nature of our powers of observation and the vastness of the fields for discovery will for ever furnish fresh objects to stimulate the human mind and preserve it from stagnation, which is equally destructive of mental and physical energy. If thus mental activity finds stimulus to its energies in the cultivation of other sciences, how much more should it be in medicine, which may be called the science of sciences, not alone from the importance of its aims, but because every branch of natural knowledge is made auxiliary to its development, whilst the boundaries between physics and physiology are every day disappearing, till the latter has become almost a branch of the former—its laws arranged with supreme wisdom for the production of vital phenomena. When the subjects to be investigated are so many and so diversified, we can see the necessity of an assemblage such as the present of men with minds equally diversified in character, each fitted to develope some particular branch of knowledge, and all uniting like converging rays of light, to illuminate the path of the practical physician. In this the economy of a division of labor is perceptible in nature's design as in the ordinary affairs of life.

Some there are who are destined by their nature to increase the stock of human knowledge. Uninfluenced by self-interest, or personal ambition, seeking no other reward but the gratification of an instinct, fed by a hope of ultimate success, not disheartened by failures or adverse criticism, they labor onward till through the darkness a light is seen breaking which reveals to their receptive minds as an established truth, that which was before an unsettled theory or a happy conjecture, and clearing away difficulties which for ages disturbed the minds of medical inquiries. In all the great centers of thought, though divided

by space, still united for a common object, such men have by their joint labors, within the last half century, raised a solid superstructure of physiological and pathological knowledge which has all the characteristics of a true science.

The briefest reference to the subjects which have been undergoing investigation by members of this Association since its last meeting (embracing the most important and abstruse problems in medicine) would show that they are imbued with the same disinterested zeal and filled with the same lofty ambition as those to whom I have referred. They do not, however, constitute a large section of this Association, and would not of any similar assembly.

Non omnia possumus omnes—we cannot all do all things, but every one can do something towards the common object. For the practical man—the every day working physician—there is presented the important duty of collecting facts from which the man of genius will derive general principles, and thus assist in bridging over the large space which divides physiology and pathology from practical medicine.

To make a good syllogism with physiology and pathology, as major and minor premises, and the treatment of disease as the conclusion, remains still the difficulty to remove which all our energies are directed. Theories founded on imperfect generalization cannot be adopted in medicine with as little injury as in other sciences. It is of no consequence to the student of optics whether the modulatory theory of light be true or false, or to the astronomer whether the Copernican sytem is capable of mathematical demonstration, but it is of great moment to the physician as to whether alcohol is a food or merely a stimulant, whether it is entirely or in part, or not at all, consumed in the body, and still contradictory statements of this kind have been propounded for the last twenty years, in succession, each professedly founded on experiments. In this instance, as in many others, error passes by a species of exosmose to the general public who adopt the views more agreeable to the senses, believing alcohol to be indispensable for the cure of all diseases, and for sustaining bodily health and mental energy. Happily, the timely declaration of 260 of the most eminent London physicians—which might be printed in letters of gold—placed the question on its true basis, stating that "while unable to abandon the use of alcohol in *some* diseases, no medical practitioner should prescribe it without a sense of grave responsibility, and with as much care as any powerful drug." This and several other instances, show that although practical men should bow to the declarations of science, they should hesitate before accepting unfinished generalizations, which a fresh experiment or a newly ascertained fact might destroy. Even deductions derived from experiments on animals, to test effects of medicines on the living organisms, though of great value must be received with a certain

amount of caution—justified by the fact that certain deadly poisons for man, are nutritive food to some animals; that zymotic diseases are not intercommunicable between men and animals, or rarely so; and that even age and idiosyncracies modify the effects of medicines, so as to make it uncertain as to what may be the effects of a given medicine in one case, by seeing its effects in another.

Add to this the unnatural condition in which the animal experimented on is placed. How modestly and at the same time philosophically, does Doctor Rutherford express himself on this subject. After "fourteen hundred hours of hard labor," spent in his investigation, he says, "the experiment on the healthy liver of the dog, on the normal and abnormal human liver, are three sets of experiments closely related, but still distinct. The facts derived from any one of the three cannot be substituted for either of the other two. Each set of facts has its own proper place, and must be kept there." And then he advises the clinical observer to test in his practice the deductions derived from experiments on animals.

We can thus see that in deliberations which will take place in the sectional meetings, there is a place for the purely practical as well as the scientific man. Their views test and are tested by each other. Rationalism enlightens empiricism, and enlightened empiricism is a check—a drag chain on hasty theorizing—from which medicine suffered so much injury through its whole history. Much as science has accomplished in establishing the physiological action of many medicines previously used empirically, the practical physician must still, in most cases, be guided by the results of the combined experience of wise men, free from egotism, vanity, self-interest, or other passions which cloud the judgment and prejudice its conclusions—while always hoping for and striving after a full knowledge of the relation between the medicine and its physiological effects. There are many diseases entirely under the control of medicines, others only partially and indirectly, and a third class, zymotic diseases, in which we can only apply our treatment to the cure of symptoms, and regulation of functions, leaving to nature the task of bringing the disease to a favorable issue. I believe that all attempts to cut short these diseases are fruitless or injurious. In the early part of this century a different opinion prevailed, and attempts were made to arrest fever by strong purgatives and bleeding. This violent treatment was soon discontinued, but I cannot help thinking that there are again signs of a return to the old heroic treatment, when in a work of the highest repute I find it recommended to begin treatment of typhoid fever with four doses of calomel, of eight grains each, six cold baths in twenty-fours hours, 27 to 45 grains of quinine, to be given frequently in the course of the disease, and twenty-two grains of digitalis as an ordinary dose. We walk in darkness with a slow and cautious step, but

here, where we are utterly ignorant of the processes by which the poison is eliminated from the system, we are recommended to give medicines which would test the constitution of one in perfect health. This treatment, though recommended by deservedly high authority, has not as yet found favor in this country, where confidence in the curative powers of nature in this class of disease still prevails. When we see the care with which each bodily organ is protected, and the wisdom with which their functions are regulated for the preservation of life, we cannot believe that Creative power which arranged these things so wisely, would send the finished work adrift to combat with destructive forces, without pre-arrangement for reparation in case of injury, internal as well as external, in fever as well as in fractured limbs, or union by the first intention.

The physiology of health is not more wonderful than what may be called the physiology of disease, by which disturbed functions are restored to their normal condition. It is not a humiliating office for the physician to study the means by which nature accomplishes her ends, and as far as his knowledge permits, to imitate her. I know the assertion of a *vis medicatrix naturæ*, is now nearly obsolete, and equally so the seeking of primary causes for vital phenomena. These old-fashioned ideas have been extinguished by modern philosophy, which asserts that all organization and its operations are the result of blind chance, without a mind to fashion or to guide them. The physician, with his opportunities for observation, must be blind indeed, who does not see beyond this darkness a clear light, showing him that all nature has been conceived and formed in beauty and order, the result of a divine purpose, directed by divine benevolence.

Whatever differences there may be in the expression of our views about treatment, or whatever disputes about theories, when we meet disease in a concrete form, in a fellow-man appealing to us for help, minor distinctions disappear, and we find we have been differing in words, not in substance, and as happens in cities from frequent consultations, there is a leveling of extreme views and an unwritten practice of medicine becomes established. The chaff is scattered to the winds, and solid truth remains. *Opinionum commenta delet dies; naturæ judicia confirmat.* Whatever drawback the physician might feel in the pride and satisfaction which ought to attend the practice of his profession, there is none from the study of hygiene and the enforcement of its principles on governments, corporations and the general public. Here he is the more than disinterested servant of humanity, elevated far above the ordinary pursuits of professional life. Much has been accomplished by legislation in this great object since Jenner reversed the sentence of death or deformity pronounced against millions of the human race, removing the dark shadow that hung over every cradle. Still this great science is only in its

infancy, and must ultimately sweep from the nosology most preventible diseases. A most important branch of this subject, *personal hygiene*, is not influenced by legislation, each individual having the power of obeying or violating its laws, at his discretion, guided on the one hand by his intellectual and moral faculties, and on the other yielding to the cravings of his animal nature; the one tending to elevate, the other to depress and degrade, by subjecting the will to sensual gratifications and emotional instincts. The physician in his private consultations is the lawgiver in these cases, and never does his profession afford him greater power of doing good, by enabling him to give advice to each patient as to the food suitable to his age, occupation and circumstances in life, as to the danger of luxurious living, and the deceitfulness of the senses, ever craving what is pleasing instead of what is useful. Above all, by counselling extreme moderation in the use of stimulants, if they should be required at all, and when we find how weak man's nature is to resist animal enjoyments, particularly the weakly, the miserable and the poor, who are willing to purchase an hour's exhaltation of their depressed spirits at the cost of many hours' misery, and how impossible it is to stop the downward course—*facilis decensus*—once begun; we will find many to whom we may advise absolute restraint, and thus counteract the vitiated opinion which prevails amongst the public, that stimulants are useful in every form of disease, every derangement of health, which they commence to use as a cure and continue as a poison. I cannot avoid speaking strongly on this subject, knowing the widespread destruction resulting from these erroneous views. Having referred "feebly, I fear, and only in obedience to official custom," to some of the objects of the Association, I must conclude with a few remarks on the influences these meetings are calculated to produce on the personal and professional character of its members. It must stimulate the industry of each of us to see men from the remote corners of the earth, of different nationalities, speaking different languages, assembling, ready to lay down their prejudices, if any exist, or offer up any increase of knowledge they may have attained at the common altar of science, in order that through all civilized nations there may be a uniformity of opinion and practice. The old man no longer *laudator temporis acti, castigator, censorque minorum* enters into free discussion with his younger brethren, claiming no consideration except what may be conceded to his knowledge. Perhaps his slowness to adopt new views, or unwillingness to discard old opinions any more than old friends, may temper the heat of the youthful mind which Horace, the Shakespeare of antiquity, describes thus: *colligit ac bonit temere et mutatur in horas*, each mind being thus the complement of the other, nothing is adopted merely because it is new, and nothing rejected for being old. The physician whose name has already reached the temple of fame, to be its

permanent abode, comes here to have his opinions tested by the humblest member of the profession, and thus many who have hitherto been contented with routine knowledge will be stimulated to enter on a renewed course of study. We should always feel that though receiving no supernatural mission, we have assumed responsibilities that attach to no other calling. We profess to be ready, night and day, to meet all emergencies. In the army, the officer when on duty is punished doubly for any offence or negligence committed, but the physician is always on duty, even in actual combat, the enemies being disease and death. In years gone by the physician asserted the specialty of his calling by pretentious peculiarity of dress. This generation does not tolerate class distinctions of this nature. By leveling up and leveling down, the gentleman and his groom, the young lady and her brother, have become very much alike. Still there is a dignity without pomp, a dignity associated with humility and simplicity of character, which the physician should possess, making him ever feel that society and his profession have a claim on his conduct and actions. His ministrations to the poor, in dispensaries and hospitals, if he would only spiritualize his motives, would raise him to the highest dignity attainable by humanity. To show the estimation in which our profession is held by many outside of it, I will quote a few words from an English divine, Father Faber. Writing of St. Luke as a physician and painter, he says: "There is something kindred in the spirit of the two occupations. The quick eye, the observant gentleness, the appreciation of character, the genial spirit, minute attentiveness, and sympathizing heart, the impassionableness to all that is soft and winning, weak and piteous. All these things belong to the true physician. He is the minister of love, not of fear, vested with a sympathetic office of consolation, which seems the more tender and unselfish because it is official." Few there are who could claim this portrait as their own. Still all should labor towards this ideal, however exalted. Unless the heart be kept warm by sympathy, familiarity with suffering will make it hardened, and the physician becomes a skillful machine deprived of all moral enjoyment in his actions. Never could it be more necessary that our minds should be pure and our motives exalted than when entering on the work of this Association. There is something solemn in the deliberations of large assemblies, which like the force of gravity attract individual opinions as to a common center, rendering it all the more necessary that unalloyed truth, wisdom and benevolence should characterize your proceedings. And returning to your homes, this meeting may be ever associated in your minds with a recollection of duties conscientiously discharged, of the friendship of early life restored, and of new ones formed on mutual respect, similarity of tastes and pursuits, and of renewed devotion to the advancement of our great profession and welfare of its members. Allow me, before

I conclude, to avail of this the first opportunity presented to me to express, on behalf of the profession in this city, our pride and satisfaction at the alacrity with which our fellow-citizens have come forward, in spite of adverse circumstances, to do honor to this Association on their arrival amongst them. In acting thus, they will transmit to a future generation the character for hospitality and respect for the stranger inherited from their ancestors. You have only to look through the college, at the excellent arrangements made for holding the various meetings, to know that there is another person eminently deserving of our gratitude, namely, the President of the Queen's College, who has never ceased, by counsel and action, to aid us in the preparations for this meeting, as he does in every movement calculated to benefit his fellow-citizens. How can I speak without apparent exaggeration of the exertions of Professor Jones in promoting the arrangements necessary for the success of this meeting. When he first proposed inviting the Association to Cork, I was nervous and alarmed at the magnitude of the undertaking; but I soon became aware that he made no miscalculation, and that he was able to realize his original promises by unceasing energy, tact and thorough knowledge of the subject. He was not only the first to suggest the invitation to Cork, but the first to form a local branch in Ireland, thus establishing a cordial union between the members of our profession in the two great divisions of the empire. For myself, I have to express my warmest thanks for saving me much trouble and anxiety, and I am sure I can express the same feeling on behalf of every member of the profession in this city. Honor to whom honor is due.

The address was listened to with much interest throughout, and frequently was warmly applauded.

THE AMERICAN LARYNGOLOGICAL ASSOCIATION.

RETRO-PHARYNGEAL SARCOMA. By F. I. KNIGHT, M. D., of Boston, Mass.

I was consulted in the summer of 1877 by Dr. Chas. Homans, of Boston, with reference to a patient of his who presented the following history:

A lady thirty-six years of age had had a hacking cough much of the time for four or five years, and hawking and raising of phlegm, with sensation of strangling in the morning, for the previous year. She had been subject to sore throat, always pronounced "tonsillitis," for four years. She had been subject to dyspnœa on exertion for two years.

In January, 1877, having taken a severe cold, the cough was much exaggerated, she became debilitated, and was ordered to go South, and while at the South she first experienced a feeling of suffocation at night, which was several times afterwards repeated. She had had some dysphagia, but no pain in the throat. The voice was not affected. There was no family history of tumors. On her way North the throat was examined laryngoscopically for the first time by Dr. Samuel Johnston, of Baltimore, who discovered the large neoplasm, to be described. As the patient was unable to remain in Baltimore long enough to submit to treatment from Dr. Johnston, she returned to Boston, and came under my observation, as before mentioned.

On examination of the pharynx in the ordinary manner, nothing abnormal could be seen. With the laryngeal mirror a large tumor came into view, almost completely filling the upper cavity of the larynx. It was round, pretty smooth, rather soft to the touch, covered with congested mucous membrane, in which several vessels could be distinctly traced, and attached broadly in its posterior portion, exactly where, whether to the arytenoid region of the larynx, or to the posterior wall of the lower pharynx, could not be determined at that time. There was no ulceration, and no enlargement of lymphatic glands.

The situation of the growth was almost identical with that of a "fibroid" reported by Voltolini[1], which also had a broad attachment, and which apparently did not recur after removal by the galvano-caustic loop. It was decided to remove the growth in our case by the same means, after preliminary tracheotomy. Dr. Homans did tracheotomy the next day.

1. Die Anwendung der Galvanocaustik, etc., 2 te., Aufl. Wien, 1872, p. 226.

Fig. 2.

Retro-Pharyngeal Sarcoma. Tumor as seen by laryngeal mirror.
(See p. 266.)

Instead of using a simple platinum loop, I had the extremity of Mackenzie's "guarded wheel ecraseur" fitted to Voltolini's handle, and protected on the posterior aspect by hard rubber.

Nothing could have been more satisfactory than the operation, the growth being quickly removed close to the pharyngeal wall with but little hemorrhage. It was of the size of a small horse-chestnut, encapsulated, and its cut surface about half an inch in diameter. We had hoped that, notwithstanding its rather soft feeling, it, like Voltolini's, would prove a fibroid. But it was pronounced by Dr. Cutler, and afterwards by Dr. Fitz, to be a small celled spindle sarcoma.

Dr. Cutler's report of the microscopic appearance of the growth after hardening was as follows: "It was composed of moderately small spindle cells, lying singly in a very small amount of intercellular substance. These cells were in many places arranged in bundles, which intersected each other in all directions. In a few places large numbers of round cells of medium size were found, and occasionally star-shaped cells were met with. By far the greater number of cells were spindle shaped. The growth was a spindle-celled sarcoma."

In a few days it had grown to almost its original size, and so it has remained for nearly two years, with a certain amount of shrinkage in the past year. The patient has continued to wear the tracheal tube, has had no difficulty in swallowing, and in fact little annoyance but from the tube, excepting occasional aphonia when she has taken cold. Ordinarily the voice has been very good when the tracheal tube was stopped. Both Dr. Homans and myself felt that it was better to wait for more urgent symptoms before undertaking a radical operation, which would not only endanger life, but involve the risk (with a growth so liable to recur, if life were saved), of increasing the discomfort of the patient.

I have been interested in looking up records of similar pharyngeal growths, and have made brief abstracts of cases found.

Arnott[1] reports the case of a female nineteen years of age, who had noticed a lump in her throat three months. Dysphagia and impaired speech (from obstructed nares) had existed longer. On examination a round tumor was seen filling the upper part of the pharynx, arising apparently from below. It was of the color of the surrounding parts, but its surface was rough and irregular. It was somewhat movable, and seemed attached by a pedicle to the posterior wall of the pharynx below the sight. It was removed by ligature and evulsion. There was no hemorrhage, and the patient left the hospital in a few days. Examination of the tumor showed it to be of the "size of a green walnut," with a narrow pedicle. The surface was mulberry-like. On section it

1. *Lond. Med. Gaz.*, N. S. 1845, vol. I, p. 530.

was firm, of uniform character, and "corresponded with what has been called albuminous sarcoma." On microscopic examination there were found caudate, nucleated cells, and a thin layer of epithelial cells on its surface.

Arnott[1] reports another case, that of a female forty years of age, who received a blow from a man's fist on the left jaw. She suffered pain in this region till at the end of a month a suffocative attack at night led to the discovery of a small hard swelling of about the size of a hazelnut in the left fauces. When seen by Arnott a year and a half later she complained of attacks of suffocation and dyspnœa. She could swallow liquids or fine solids without difficulty. On examination a globular tumor projected from left of fauces two-thirds across the isthmus. It was smooth, covered by mucous membrane, had a broad base, and no trace of tonsil or posterior pillar of palate could be seen on the affected side. The mucous membrane was divided, then a layer of muscular fiber, and then a cyst, the walls of which having been pushed back, a ligature was applied, the growth sloughed, and potassa fusa was applied to the stump. At the end of three months the only evidences of disease were granulations arising from the projecting and everted edge of the contracted cyst. This was also called "albuminous sarcoma."

Busch[2] gives three cases of what he designates as "retropharyngeal tumors." The first case was that of a man thirty-four years of age, whose voice had been modified for fourteen years. He had had dyspnœa for six months, with suffocative attacks in his sleep. There is no mention of dysphagia. On examination a tumor as large as a goose egg, with somewhat uneven surface, was found to extend from the level of the epiglottis up behind the soft palate, which it pushed forward on the left side. The mucous membrane covering it was livid. The tonsil was seen in the middle of the tumor. The external carotid, having been seen to be dilated, was tied previous to the operation on the growth, in order to diminish hemorrhage. An incision was made in the soft palate and mucous membrane covering the tumor, which was then peeled out with the fingers and scalpel. It was so large that, notwithstanding the patient's front teeth were missing, it was with difficulty brought out of the mouth. It was pronounced a sarcoma in a firm connective tissue capsule. There was severe pharyngeal inflammation for a few days, after which the patient was declared cured.

The second case was that of a man aged seventy, who had felt a small bunch in his throat a year before admission to the hospital. On admission deglutition was very difficult. On examination a tumor was found coming from the left, which filled the pharynx. On swallowing, the food passed through a narrow ulcerated slit. The operation was the same as in the preceding

1. L. c., p. 531.
2. Annalen des Charite-Krankenhausse, Jahrg. 8, hft. 1, p. 89, 1857.

case. The carotid, however, was not ligated. As the ulceration prevented the preservation of the mucous membrane intact, a crucial incision was made in it. Severe imflammation followed for a few days. The patient was discharged cured. The growth was stated to be morphologically like that of the preceding case, but with a great preponderance of unripe cell elements.

The third case reported by Busch is that of a man whose age is not stated, who had a growth of the size of a hen's egg, apparently similar to the preceding, arising from the right side of the pharynx. It did not cause him sufficient annoyance to induce him to consent to an operation.

Röser[1] reports a case which occurred in his practice in 1826. The patient's symptoms were dysphagia of six months' duration, extreme at time of examination, dangerous dyspnœa, nausea and vomiting, and hoarseness.

On ordinary inspection of the fauces nothing could be seen, but when the patient was made to gag, a smooth, soft, round, bright-red tumor came into view. By the finger it seemed to be attached to the posterior wall of the pharynx, low down. It was torn out with the forceps used for extracting stone from the bladder. It was two and a half inches in diameter, and covered with mucous membrane except at the place of attachment, which was as large as a "thaler." It looked like an ordinary fibroid, but was softer and more elastic. The microscope was not then in use. As the growth was softer and more elastic than an ordinary fibroid, it may have been sarcomatous. There was very slight hemorrhage after the operation.

Wagner (of Königsberg)[2] gives the case of a man, twenty-six years of age, who for twelve years had noticed a small, movable tumor under left angle of lower jaw. This began to increase rather rapidly, and at the same time pain on swallowing was experienced. Some swelling was detected about the left tonsil. About seven months after this he was admitted to the hospital. Ten days before his admission severe pain running up the ear and brow had set in, and the growth increased so much that he could not swallow solids at all, and he swallowed liquids with difficulty. Several times suffocative attacks had occurred in his sleep, and quite considerable hemorrhage. On examination, there was found a tumor of the size of a pigeon's egg under left angle of jaw; inside, the left arches of palate and pharyngeal wall were pushed out by a tumor, which was elastic, firm and smooth, and which seemed strongly attached to the bony wall of the pharynx. The left tonsil was not seen; where it naturally would have been, the tumor was ulcerated. The arcus palatoglossus and mucous membrane of the pharynx were incised, and the tumor dissected out with the fingers, scalpel, etc. It was

1. Medicinisches Correspondenz-blatt des Würtembergischen Aerzlitchen Vereins. bd. 29. S. 161, 1869.
2. Deutsche Klinik, 1861. p. 61.

apparently thoroughly removed. The external tumor was found to be quite distinct, and also removed. The inner growth arose from the retropharyngeal connective tissue of the spine, which was itself sound; it was of the size of the fist and extended from the base of the skull to the hyoid bone. It was pronounced a soft sarcoma. There was a speedy recurrence, frequent partial removal for relief, and finally death, five months after entrance, the patient having been choked by a piece of the tumor falling upon the larynx.

Larondelle[1] reports the case of a woman, twenty-eight years of age, who had had dysphagia sixteen months. For six months she had been unable to swallow solids, and had sometimes regurgitated liquids through the nose. Her voice was thick, hoarse, and nasal. She had severe paroxysms of cough, and suffocation; also nausea and vomiting. On examination a large, round, smooth tumor, reddish in color, was seen filling the space between the base of the tongue, the posterior wall of the pharynx, and the larynx. It was attached by a short pedicle (about two centimetres thick) to the left lateral wall of the pharynx below the tonsil. It was removed by the ecraseur. It measured seven by four centimetres. It consisted of connective and elastic tissue surrounding alveoli filled with fat cells. Adipose tissue very abundant. It was called sarcoma. Perhaps it should have been classed rather as a lipoma. The pedicle seemed to consist only of mucous membrane. There had been no recurrence at the end of seven months.

Rosenbach,[2] reports a case operated on by Prof. Baum, of Göttingen. A man, forty-five years of age, was sent to the hospital on account of dysphagia and dyspnœa with suffocative attacks, which had been developing for six months or more. He had coughed up a piece of new growth half as large as the terminal phalanx of the thumb. On examination of fauces, a large reddish tumor was discovered. It was soft, and its surface was uneven, presenting large and small projections. It was adherent to the pharynx on the right of the hyoid bone. It measured one centimetre horizontally, more vertically. There was no lymphatic enlargement. Tracheotomy was done. Trendelenburg's canula was introduced, and then sub-hyoid pharyngotomy was performed. The growth was torn away with the fingers, and ligatures put upon the adherent stump. The growth was pronounced a round-cell sarcoma. The patient was discharged cured, but there was no subsequent report from him.

Venturini,[3] reports the case of a boy, twelve years of age. A year before seen by V. he had had otorrhœa of the right ear, and

1. *Bulletin L'Academie de Médicine de Belgique* III Serie. Tome 4, p. 183. 1870.
2. *Berliner Klinische Wochinschrift*, 1875, p. 519.
3. *L'Ippocratico*, 1871, vol. XIX., 3 Ser. p. 39.

some enlargement of the cervical glands of the same side. At this time he had some inconvenience in swallowing. When seen by Venturini he was emaciated and livid, and had three large glandular swellings of the right side of the neck.

On examination of the fauces, a large tumor was discovered attached by an extremely short pedicle to the right posterior pillar of the pharynx. On moving it, the patient was threatened with suffocation. It was removed at once by the largest sized wire écraseur. There was but little hemorrhage. The wound healed quickly, and the glandular swellings diminished. The tumor was of the size of a small apple, of a rosy color, nearly round, smooth, elastic, and of a soft, meaty consistence.

On section it had a lardaceous appearance, and on scraping, a reddish-yellow fluid was exuded. The vessels from the pedicle ramified freely in the tumor. On microscopic examination were found uniform round cells, and a granular protoplasm nucleated and contained in a scanty amorphous cellular substance. All the surface of the tumor was covered with pavement epithelium, which connected with it by fibres of connective tissue. The patient was seen three months after the operation. He looked well, and there was no appearance of the reproduction of the tumor. There was still a trace of the operation, and the right tonsil was somewhat atrophied.

Billroth,[1] reports the removal by the écraseur of a fibro-sarcomatous polypus of the size of a hen's egg from the pharynx. After nearly six years the patient, who was a man of fifty years, showed no signs of recurrence.

Mr. Syme[2] reports a case of "Fibrous Tumor of the Fauces," which Busch thinks was more likely a retropharyngeal sarcoma. A man, of thirty-eight years, presented himself, having a large, round, firm tumor, somewhat nodulated, in the region of the left tonsil. It was somewhat movable. It was as large as a small potato. The mucous membrane was divided, and the growth dissected out. The subsequent history as to recurrence is not given.

J. Carreno[3] gives the history of a rather remarkable case. Twenty-one years before his visit to Carreno, the patient, who was then a man of forty-nine years, had noticed in his throat one day while shaving himself a few bodies resembling hairs or straws, which terminated at their ends in little balls about the size of lentils. When Carreno saw him he had terrible dyspnœa, and dysphagia, and stated that during an attack of vomiting, a tumor had protruded an inch outside of the mouth. On examination two large tumors were seen in the fauces, pediculated, one measuring four inches in length and two and one-half inches in

1. *Langenbeck's Archiv für Klinische Chirurgie*, Bd. X S. 207.
2. *London Lancet*, 1856, vol. I, p. 51.
3. *Observacion de cuatro polipos situados en el centro de la faringe Decados de Med. y Cir. pract. Madrid*, 1828, vol XVII. p. 217.

thickness, with a thick and long pedicle, the other three and one-half inches in length, and more than four inches in thickness, its pedicle being thick and short, somewhat resembling cartilage. Their color was that of raw meat. The first was ligated and removed with the bistoury. The second was ligated, and removed with a lithotome and curved scissors. The removal of these two revealed the existence of two other pediculated growths rising from the bases of the preceding ones, and these were ligated several days after. There was much hemorrhage, and danger of suffocation from loosening of a ligature, which was controlled by another. The growths were pronounced fibro-cellular, and contained in their interior a tallow-like, concrete substance, ramified with vessels. They originated in the submucous cellular tissue.

Dr. S. H. Chapman[1] reports a case of "Sarcoma of the Inferior Constrictor of the Pharynx and Inlet of the Œsophagus," which, however, belonged more to the œsophagus than pharynx, and so does not much concern us at the present time.

Dr. Busch,[2] of Bonn, at the sixth Congress of the Society of German Surgeons, showed several retro-pharyngeal tumors, one of them a lipoma of the size of the fist. He said that these tumors were rather frequently met with in Bonn. They were lymphomata, fibromata, sarcomata, and rarely lipomata; generally encapsuled and easily removed. Their removal was, however, rendered difficult by the previous employment of electrolysis, the galvano-cautery, etc., which led to the destruction of the capsular limitation and to cicatricial induration between the sheath of the carotid, the bucco-pharyngeal fascia, and the surface of the tumor rendering the separation of the latter from the carotid a difficult and dangerous proceeding.

Dr. Cohen[3] refers to a case of round-celled sarcoma of the pharynx, with extensive attachments, which had been attending the surgical clinics at Jefferson Medical College for two years, in which tracheotomy was performed, and large masses removed from time to time for several months subsequently; Dr. Cohen remarks that it is quite likely that the patient would not have survived as long had a radical operation been performed when he first presented himself.

It will suggest itself at once that the facts given do not warrant us in classifying all of these cases under the head of sarcomata. There is no doubt, furthermore, that other cases, which have been recorded as fibroid, belong to this class. It will be seen also that the nature of the growths, properly classed as sarcomata, is very varied, so that we cannot rightly compare even them for the sake of making any deduction as to their

1. *The American Journal of the Medical Sciences*, Oct., 1877.
2. *London Medical Record*, Oct, 15th, 1877.
3. Diseases of the Throat and Nasal Passages, 2d Ed. New York, 1879, p. 252.

clinical history, i. e., time and mode of development, liability to recurrence, etc.

They are interesting, because rare, and with reference to practical procedure. The pediculated growths are easily disposed of, by ligature, écraseur, snare, scissors, etc. Those with a broad base are much harder to deal with. Few would be as successful as Röser, in tearing out such a growth with forceps. If it is situated high in the pharynx, it may be dissected out, as in the cases of Arnott (2d case) Busch and Wagner. But even in this case, if the tumor is situated at the side of the pharynx, which, as we have seen, occurs in many instances, the proximity of the carotid artery and its branches may render the operation very embarrassing, and we have seen that Busch took the precaution to tie the external carotid in one case, having found that vessel to be dilated.

If the growth of broad base is situated low in the pharynx, there seems little hope from any operation but pharyngotomy. Sub-hyoid pharyngotomy has been performed twice for the removal of tumors of the pharynx, once successfully and once with a fatal result. The fatal case was the well-known one of Langenbeck,[1] in which the operation was performed for the removal of a fibroma of the size of a Borsdorf apple. Twenty-five ligatures were required, there was much hemorrhage, both primary and secondary, and the patient died on the second day after the operation. The successful case was that of Prof. Baum, reported by Rosenbach, to which we have already made reference.

The propriety of performing this serious and certainly hazardous operation, upon a growth liable to recurrence, before urgent symptoms demand it, I should like to make the subject of discussion by the Association.

DISCUSSION.

DR. COHEN, of Philadelphia, expressed his interest in the paper that had just been read and stated that according to his own experience, sarcoma of the pharynx was quite rare, the great majority of pharyngeal neoplasms being fibromas. He was not aware that so many cases of sarcoma were on record. Indeed, he could only distinctly remember having seen two positive cases of sarcoma, the case referred to in the paper as mentioned in the late edition of his book, and another, which only the Friday previously he had assisted a former pupil, Dr. Franklin, of Philadelphia, in removing with the galvano-cautery and forcible evulsion. Though doubting the propriety of attempts at radical removal of malignant growths of the pharynx unless the symptoms were urgent, interfering seriously with respiration or with

1. *Allg. Central-Zeit*, 1870, January 29th.

deglutition, he had rather favored an operation in the instance to which he was about to refer, for reasons he mentioned in its recital. Sunday, two weeks ago, Dr. Franklin brought to him in consultation, a healthy carpenter, forty-one years of age, single, and formerly a sea captain, who had first complained of sore throat, the result of cold two months previously.

About two weeks before Dr. Cohen saw the case some symptoms of impeded articulation and nasal obstruction led Dr. Franklin to pass his fore-finger into the retronasal portion of the pharynx of the side affected, with the result of discovering some irregularities of surface which were attributed to the existence of adenoid vegetations, as so frequently encountered in that region, but there was no evidence of the existence of a tumor on direct inspection of the throat. One week later a swelling was noticed at the lower portion of the left side of the soft palate due to something behind it, which palpation revealed to be an irregular morbid growth. During the week that had passed this had undergone considerable enlargement. Dr. Cohen observed the marked bulging of the soft palate by the tumor which had pushed the uvula far to the right side so as to be almost in contact with the tonsil of that side. The tumor was wholly above the level of the soft palate and did not involve the palatine fold or the tonsil. Rhinoscopic inspection revealed the presence of an irregular tumor filling the left side of the naso-pharyngeal space, extending beyond the middle line and precluding a view of the normal pharyngeal wall and of the posterior outlet of the left nares. Palpation determined its size as equal to that of a large horse chestnut, lobulated and divided transversely into two flattened but continuous lobes, the anterior one being involved in the posterior wall of the palate, and the posterior one adherent by somewhat constricted attachments to the posterior wall of the pharynx, to the left of the median line, and possibly laterally also, in the extreme posterior portion. It was semi-elastic in consistence at its free surface but very firm at its points of attachment as far as they could be circumscribed. It bled slightly from the manipulation. There was no pain. Several portions of the neoplasm were removed with gouge, forceps and frozen sections of the same were made within an hour by Drs. Seiler and Simes of the Pathological Society of Philadelphia, which, on examination, proved to be sections of a small round-cell sarcoma. The apparent localization of the mass, its rapid growth, and the alternative, under the results of the microscopic examination, of abandoning the patient to positive destruction in the future development of the neoplasm, led Dr. Franklin and himself to decide upon its early removal, with a large portion of the soft palate, in the hope of getting rid of the entire disease. The operation proposed was to excise a large portion of the soft palate with the galvano-cautery knife, remove the pharyngeal attachments of the growth by evulsion, and freely cauterize the entire

surface of implantation with the galvano-cautery. The extreme probability of recurrence was explained to the patient.

On the day mentioned the operation was performed successfully, without anæsthesia, and the patient was doing well, with a large cleft in the palate. The disturbance caused by the rather protracted operation had been so little that before retiring to his room the patient had asked for an entertaining book to read, to keep his mind engaged. Dr. Cohen took occasion to mention that the excision of the palate was mainly performed on the hanging head (Rose's plan), but that at the request of the patient, the sitting posture was substituted, and found to be much more convenient for manipulation, as there was no hemorrhage until the evulsion was practiced and that was but little. As to the propriety of the removal of the tumor, time would soon decide, but he would reiterate the opinion entertained in connection with the case referred to in his book, and in which the œsophageal portion of the pharynx on the right side was chiefly involved, that that patient would hardly have survived the two years he had existed, had a radical operation been attempted. In the present instance direct access to the entire mass was practicable and this appeared to him one of the reasons which should influence the decision to operate. Inefficient removal of a sarcoma would be almost inevitably followed by accelerated growth and if there had been much disturbance of the normal position of sound parts, the growth would be proportionally rapid in the absence of limiting structures.

Where the symptoms produced by sarcoma were not urgent or could be combatted by other resources and the growth was not rapid, Dr. Cohen would certainly hesitate in advising an operation. Where symptoms were urgent or where the growth was rapid, the propriety of evulsion would depend upon a sufficiently limited extent of implication of tissue to justify a hope that the entire mass might be eradicated, with a certain amount of surrounding tissue apparently still healthy. When the attachments of a sarcoma were sufficiently extensive to preclude a hope of removing the entire mass, the only justification for operative procedure would be the desire of averting immediate or approximatively immediate death, and thus prolonging the life of the individual for a brief period.

DR. CARL SEILER, of Philadelphia, said that he was not satisfied with the report of the microscopical examination of the tumor, inasmuch as it gave nothing but a description of the shape of the cells, and that, according to this report, it might be a fibroma or myxoma or anything else. He further said that at the present time the mere shape of the cell was not accepted by microscopists as diagnostic of a growth, but that the arrangement of the cells and the character of the blood vessels, together with the stroma in which the cells are found, must all be taken into consideration in a microscopical examination. After examining a

section of the growth, he said that he considered it to be a fibroma, because it was made up of long, thin spindle-shaped cells, arranged in bundles, having small nuclei. These bundles of cells or fibers were seen to run in different directions, interlacing with each other. The blood vessels were seen to be fully developed, exhibiting well marked coats in cross sections, and no stroma or inter-cellular substance could be made out.

If it was a spindle-celled sarcoma, the cells would be shorter and thicker, the nuclei larger, and the blood vessels mere channels between the bundles of cells.

[DR. CUTLER having been informed after the meeting that objection had been made to his opinion of the character of the tumor, writes as follows: "A microscopic examination, both while fresh and after hardening, showed that it was composed of medium-sized cells, with relatively large oval nuclei, lying singly, and each surrounded by a small amount of stroma. Thin sections of the tumor teased and penciled while fresh, showed that by far the larger number of the cells were spindle-shaped, though many were round, and some were star-shaped, the nuclei being very large, and the nucleoli distinct. The stroma generally was fibrillated, and but slight in amount. The blood vessels were numerous. Sections of the tumor, after hardening, showed the cells were arranged in bundles, which interlaced each other in all directions. The growth was a spindle-celled sarcoma."]

DR. BEVERLY ROBINSON, of New York, had never encountered a case of retro-pharyngeal sarcoma, but he had taken care of a case some time since of sarcoma of the larynx, and from this, by analogy, he thought one or two inferences might fairly be drawn. In that instance there was no engorgement of the ganglia of the neck, and no microscopical examination. There was no "embryonic" condition of the blood vessels, upon the presence of which Dr. Carl Seiler laid great stress. Further, he could state, after the close and long continued observation of a case of epithelioma of the larynx, which had come to him in his hospital practice, that the induration and enlargement of the lymphatic ganglia in the region of the neck, in even more malignant affections, were not essential. He had reached the conclusion, from these and other instances observed, that engorgement of the chain of glands referred to, in examples where intra-laryngeal tumors were present, was a sign of differential diagnosis, which could not be relied upon, and indeed it was sometimes absent for a long period in cases of unquestioned malignity. Until now Dr. Robinson had always considered the excessive number of small cells in sarcomatous tumors as being proof, to a certain extent, of their malignity, or at all events of the rapidity with which they would probably recur. In this belief he was upheld by many microscopists, and notably by Virchow, in his work on the pathology of tumors. Dr. Robinson believes that in cases in which a retro-

pharyngeal sarcoma is actually present, the necessity of performing pharyngotomy would not often occur, simply because he thought it probable that the patient would succumb to secondary growths in the viscera, and notably in the lungs, before the obstruction to breathing and deglutition was so great as imperatively to demand it.

DR. LEFFERTS, of New York, said: The variety of tumors of the lower pharynx and the meagreness of the information that one is able to derive from works on the subject of pharyngeal affections, makes the paper of Dr. Knight one of peculiar value and interest. I must also congratulate him upon the thoroughness with which he has performed his task of collating the literature of the affection, for having recently had occasion to go over the ground myself, in connection with a case of which I shall in a moment speak, I am in a position to know from experience the amount of labor involved in the exhaustive search for recorded instances of pharyngeal tumor which he has made. Many points of interest from a surgical and pathological standpoint force themselves upon the attention after hearing the history of the doctor's case and the number which he has collected. I shall allude to but a few. Are tumors of the pharynx, their rarity being admitted, usually benign or malignant in their nature, is a question which naturally presents itself first; one of much import, and one that must seriously influence prognosis. Again, are they, as a rule, easy or difficult of removal, and what operation or method of operating will best suit the general indications of the ordinary case? All these are practical questions and ones upon the elucidation of which personal experience will necessarily shed much light. I have seen in my own practice and that of others, five instances only of true tumor of the middle or lower pharynx. In three cases they were developed within the tissues of the *velum palati* alone and in the remaining two involved both the tonsil and lateral pharyngeal wall. The anatomical details of exact locality and displacement of parts I spare you. In three cases the tumors, varying in size from that of a walnut to more than the bulk of the first (Peter's case), were readily *enucleated*, with some care after an incision, crucial or linear, had been made over them. In one case the tumor was encircled with the galvano-cautery loop and cleanly removed, and in the last, partially removed by this means, the operation being completed with the knife. Microscopical examination in three instances certainly, and perhaps in the fourth, showed the neoplasm to belong to the class *adenoma*. In the fifth case as far as I know, no examination was made. My individual experience then has been, that pharyngeal tumors are certainly often benign in their nature, and easily removable by enucleation, but perhaps my experience has been exceptionally fortunate and unusual.

Dr. Knight has raised the question as to the propriety of removing the tumor in his case, through an incision in the thyro-

hyoid space, and as to the danger of the operation. "Sub-hyoidean laryngotomy," or perhaps more correctly, "pharyngotomy," has been performed but once in this country, and then by myself, for the removal of a foreign body impacted for years in the upper parts of the larynx. No accident happened during it, no difficulty was met with, and I should, from my experience of operations in general, regard this as a very easy and safe one, as far as the operation itself is concerned. The results, as recorded when it has been performed for the removal of pharyngeal growths, have not been favorable; results attributable, I believe, to the nature and location of the neoplasm, and not to the operation *per se*. Whether or not it be indicated in Dr. Knight's case, which the nature and location of the tumor make a serious one, that is to say, whether he will be able to best reach the growth by this means, he must judge, his repeated examinations fitting him for the task. He has other operations at his disposal, such as dividing the lower jaw in the median line and separating its halves, a procedure which increases most markedly our opportunity of reaching and working in the lower pharynx. Finally the question presents itself whether we shall, in such a case as that of Dr. Knight's (the growth being known to be sarcomatous, and therefore, in all probability recurrent in its nature, the symptoms not at this date urgent, certainly not dangerous, and the operation which best perhaps presents a feasable hope of reaching the mass so thoroughly as to remove it entire, being one where results, when undertaken for this particular purpose, are not good) operate at once or wait for more urgent surgical indications. Here, again, individual experience and peculiar views must decide. I should be in favor, in the *present instance*, of waiting at least for a time if my interpretations of the signs as I have heard them read be correct; but there is likewise much to be said, probably, by the advocates of early extirpation. I simply record my own views.

DR. ROE, of Rochester, N. Y., said: A case of pharyngeal tumor came under my observation last February. It was in a little girl seven years old.

About two months previous the child began to have an impediment in speaking, and a small tumor was noticed in the throat, supposed to be an enlarged tonsil. Shortly after deglutition began to be interfered with, when she was taken to the family physician, who referred the case to me.

On examination I found a hard nodule, about the size of a hickory nut, located to the right of the median line of the pharynx, about opposite the upper border of the epiglottis. I was unable to determine the exact nature of the tumor, but decided that it must be removed without delay, as it was growing quite rapidly, and respiration was interfered with during sleep, causing a snoring, and sometimes starting up suddenly for breath. Its general appearance and feeling were more like a fibroid, and

supposing it might be difficult of removal, I had the galvano-cautery at hand to destroy what I might not be able to remove with the knife, or to remove it with the cautery knife in case of much hemorrhage. I first made an incision over the tumor, and found that I could without difficulty enucleate the growth, which I did with but slight hemorrhage. The tumor, on examination, was found to be a lipoma.

The easy removal of this growth by enucleation accords with the statement just made by Dr. Lefferts, that in his experience pharyngeal tumors are usually readily removed, and often easily enucleated as illustrated by the cases which he has just cited.

I have been much interested in Dr. Knight's very unique case, as it is one much more difficult of management than are usually found in the pharynx, and shall be glad to learn the result of his future treatment of it.

Clinical Reports from Private Practice.

SEVERE INJURY OF THE BRAIN—RECOVERY. By A. T. BARTLETT, M. D., of Virden, Ill.

Not only does the following report relate to a somewhat remarkable recovery, but it is also suggestive of a point referred to in my article published in the March number of the JOURNAL, viz., the slight general disturbance occasionally following severe injuries of the brain, or in other words, the ability of some constitutions to resist depressing influences:

A well developed boy, two years nine and a half months old, of Danish parents, was kicked by a horse May 22d, 1879. I saw him in about thirty minutes after the reception of the wound, at which time he was resting quietly in his father's arms, with nothing whatever in his general appearance to indicate serious injury, except an implied desire to be let alone, and a vigorous protest whenever an attempt was made to remove the cloth covering his head. As to the immediate effect of his injury, nothing was positively known, but it may be inferred that there was little or no concussion of the brain, as the mother asserted that the child had escaped her observation only a few minutes when she heard an unusual noise resembling a faint cry, and a minute after a loud cry, and upon going to the child found him upon his knees and one hand, in the act of rising, while with the other hand he was wiping the blood from his face, there being no perceptible impairment of any of his faculties, mental or physical, calling his mother's name as soon as he discovered her, and afterwards becoming excessively frightened at a dog that was passing.

I found, however, upon examination, that a semilunar flap of integument three and three-fourths inches in length, correspond-

ing very nearly in shape to the border of a horse's hoof, and extending from a point near to and above the outer angle of the left eye, over the frontal eminence, had been turned up, and there was extensive fracture of bone. I therefore chloroformed the patient, and proceeded at once to dress the wound. The opening in the skull proved to be three and one-fourth inches in length. Several pieces of bone were imbedded in the brain, and a narrow spicula one and five-eighths inches in length was driven between the dura mater and the cranial wall on the left side; and to the border of the chasm nearest the median line, for about half its length, pieces of bone half an inch in width were firmly adherent, while their free edges were so much depressed that they represented an angle of about forty-five degrees to the cranial arch.

In elevating these, their attachments became so much weakened that it was thought best to remove them except at one point where only the external table was taken out. After removing the detached and depressed pieces of bone and smoothing somewhat the ragged borders of the skull, the opening measured, at the widest part, one inch in width. Although the brain was contused and lacerated, and portions of it adhered to the spicula of bone as they were removed, there was but little, if any, oozing. Indeed, the brain appeared to recede from the opening so far that there could be no escape or overflow of its substance, except the little particles that were perhaps floating in the blood, and notwithstanding the regular and very marked ebb and flow of the cerebral mass, synchronously with the heart's action, the tide did not rise so high as to interfere in the least with the use of the bone forceps or other instruments employed in dressing the wound. The rent in the dura mater was an inch or more in length, and attached to one side of it were narrow shreds of this membrane, which I trimmed off with the scissors.

The opening was next closed by carefully replacing the flap in the scalp and securing it by five silver sutures, leaving a space at the lower extremity of the wound one inch in length, for drainage. In this dressing, pure water alone was used to cleanse the parts, and no measures were adopted, by the use of the spray or otherwise, to prevent the lodgment of the omnipresent organic germs (of which so much is said) in a soil where all the conditions seemed to favor the development of the ubiquitous bacteria; and here the pertinent interrogative presents itself: might not nature's process for throwing off the contused and disorganized brain substance have been retarded in this instance by an immediate war upon theoretic vibrionic life? Whether these supposed organisms, by their presence, cause putrefaction, or whether they are merely the carriers of septic matter, we do not know.

A compress moistened with carbolized water, was applied, and the head bandaged. After the effect of the anæsthetic had partially worn off, there was free vomiting, followed by prolonged, natural sleep. No medicine was given.

May 23d.—Patient disinclined to move on account of soreness; does not ask for food, but is free from fever; mind unaffected, and tried, by words and actions, to console the grief-stricken father. Prescribed a mild laxative and diaphoretic mixture (saline), and directed that potass. bromid be given in case symptoms of fever or nervousness presented themselves.

24th.—Slight febrile reaction; some restlessness during the night. As there had been no evacuation of the bowels, gave a calomel purge, to be followed by magnes sulph. Bowels moved twice, after which nervous and vascular excitement subsided, and the case progressed without interruption to a favorable termination. But little, if any, more medicine was given, except an occasional dose of bromide. The external wound healed readily. To insure free exit of matter, I introduced a few horse-hairs, which were removed in a day or two.

REPORT OF A CASE OF MONSTRA DEFICIENTIA TO THE CENTRAL KENTUCKY MEDICAL ASSOCIATION. By J. G. CARPENTER, M. D., of Crab Orchard Springs, Kentucky.

Mrs C., during the month of November 1876, gave birth to a living monstrosity, it having a deficiency of bones and muscles and may be correctly called a monstra deficientia.

Mrs. C.'s age is 46 years, has given birth to fifteen living children and has enjoyed comparatively good health all her life except during the month of March, 1876, when she was attacked with malarial fever and has led a very active and domestic life. Her husband is 48 years of age and has led an active and laborious life, in fact has done more manual labor than most men of his age. This monstrosity has bright eyes, an intelligent expression, respiration natural, action of heart regular, bowels and kidneys act well.

There is a cleft in the hard palate and an entire absence of the soft palate; the forearms are flexed on the arms, extension being impossible; the abdomen is exceeding large; the iliac, the ischii, the femur and the most of the rami of pubis are absent; the symphysis pubis is distinct and the sacrum is diminutive. The lower extremity is attached to the trunk by two fibro-cutaneous bands, which extend from a point opposite where the hip-joint should be, to the upper extremities of tibia and fibula; the right lower extremities sloughed a few days after birth; the head of the child was oblong or lemon shaped.

Sensation was elicited but no voluntary motion of limb could be produced. This monster lived 12 months and died from inanition. The cause of this deficiency in the development of the infant seems probably that there is a lack of procreative power in both parents, as the mother is 46 years old and is the mother of fifteen children, and the father, in addition to being the progenitor of fifteen children, has impaired his constitution by laborious work.

Editorial.

ONE of the reasons for enlarging the JOURNAL, was that we might be enabled to publish as great a variety of subjects as possible, expecting to have quite a number of contributors. In these expectations we have not been disappointed. Indeed, it is impossible for us to publish the fourth of our contributions if our friends do not endeavor to condense their articles. Short, thoughtful, carefully prepared papers are more likely to be read, quoted and appreciated than are very long articles, even on *important* subjects. Our columns are very much crowded, and a large number of contributors are compelled to wait for room. Some of our best friends have been unintentionally slighted by delay from this cause. We are proud of the character of our contributors, and of their number, but other things being equal, we will be compelled to give preference to short articles.

Hereafter we will be greatly pleased if our contributors will limit themselves to from six to eight pages. If subjects cannot be treated within these limits, then they had better be so written that they may be divided and given under appropriate sub-heads. Of course we do not include Transactions of Medical Societies in this restriction.

This may seem harsh to some of our most valuable contributors, but in defense of the writers of short and important articles we are forced to this course.

THE AMERICAN LARYNGOLOGICAL ASSOCIATION.

With this number we commence the publication of the papers and discussions of this Association. These papers and discussions, after their appearance in the JOURNAL, will appear in book form. Those of our readers who desire a volume of these transactions should make application at once, as but a limited number will be published. Although there are a few medical associations in this country and in Europe that have *sections* devoted to Laryngology and subjects allied to it, yet no *national* association, devoted to this subject, has ever been formed until the meeting of this one in New York City last June.

The formation of this Society for the promotion of knowledge relating to the disease of the upper air passages, is one of

the best evidences that progress is being made in this department. The papers with the discussions on each, will appear in the following order:

Retro-pharyngeal Sarcoma, by Dr. F. I. Knight, of Boston; on Nasal Catarrh, by Dr. Thos. F. Rumbold, of St. Louis; on A Perfected Sponge-Carrier, by Dr. L. Elsberg, of New York; on Chorea Laryngealis, by Dr. G. M. Lefferts, of New York; on Naso-Pharyngeal Polypus, by Dr. R. P. Lincoln, of New York; Dr. E. Cutter, of Cambridge, on the Larynx and Uterus; Dr. Carl Seiler, of Philadelphia, Researches on the Anatomy of the Vocal Cord; Dr. J. H. Hartman, of Baltimore, on Laryngeal Hemorrhage; Dr. F. H. Bosworth, of New York, on a Case of Primary Tubercular Ulceration of the Pharynx followed by Laryngeal and Pulmonary Tuberculosis; and by Dr. E. L. Shurley, of Detroit, on the Galvano-Cautery in the Treatment of the Nose and Pharynx, with exhibition of instruments.

Other papers were read by title, and will appear in the transactions of the Society.

IT GIVES us great pleasure to present to our readers a contribution from Dr. Morell Mackenzie, of London. That this physician, so favorably known throughout the world in progressive medicine, should favor us, is not only an assurance that we have the best friends and helpers abroad as well as at home, but that our JOURNAL is what we have always intended it should be—cosmopolitan as well as national. Our contributors will be pleased to know that through our columns they reach not only every State in the Union and the Canadas, but a large number of readers in England, France, Germany, Sweden, Prussia, Italy, Cuba, South America and Mexico. By these we mean bona fide subscribers, men who are keenly alive to the interests of the profession, who find in the JOURNAL an encyclopedia of American medicine and the collateral sciences, as well as a *resumé* of various scientific research. Besides this our exchange list brings us the medical literature from almost every land and language, and quotes from us whatever we have of worth. We deprecate boasting, but feel it our duty to let our contributors know how liberally their ideas are "given to the world," through the JOURNAL, as well as to assure our readers that the field in which we glean for them is *world wide.*

Books and Pamphlets Received.

THE ADVANTAGES AND ACCIDENTS OF ARTIFICIAL ANÆSTHESIA; A Manual of Anæsthetic Agents and their Employment in the Treatment of Disease. By LAURENCE TURNBULL, M. D., Ph. G., Aural Surgeon to Jefferson Medical College Hospital; Physician to the Department of Diseases of the Eye and Ear, Howard Hospital, Philadelphia, etc. Second edition, revised and enlarged, with 27 illustrations. [Philadelphia: Lindsay & Blakiston, 1879.]

REPORT OF THE SUPERINTENDENT OF THE NORTH CAROLINA INSANE ASYLUM to the Board of Directors, April 1st, 1879. [Raleigh, N. C.]

PRECAUTIONS NECESSARY IN THE ADMINISTRATION OF ERGOT. By J. W. COMPTON, M. D., Professor of Materia Medica and Therapeutics, Evansville, Ind. [Reprint from the *Detroit Lancet*, June, 1879.]

A Remarkable Case of Semi-conscious Epileptic Automatism. By C. H. Hughes, M. D., former Superintendent and Physician of the St. Louis, Mo., State Lunatic Asylum, etc. Reprinted from *The Medical Record*, August 2d, 1879.

THE LIMIT OF PERCEPTION OF MUSICAL TONES BY THE HUMAN EAR. By LAURENCE TURNBULL, M. D., Aural Surgeon to the Jefferson Medical College Hospital, Philadelphia; Physician to the Howard Hospital, etc. [Reprinted from the *Boston Medical and Surgical Journal*, May 29th, 1879.] From the author.

FIRST ANNUAL ANNOUNCEMENT OF THE COLLEGE OF PHYSICIANS AND SURGEONS OF ST. JOSEPH, Mo. Session 1879–'80 commences Oct. 6th, ends March 1st, 1880.

ALTERNATING ANTERIOR AND POSTERIOR VERSION OF THE UTERUS. By SAMUEL C. BUSEY, M. D., Washington, D. C. [Reprint from Volume III Gynecological Transactions, 1879.]

MATERIA MEDICA AND THERAPEUTICS, VEGETABLE KINGDOM. By CHARLES D. F. PHILLIPS, M. D.; F. R. C. S. E.; Lecturer on Materia Medica, Westminster Hospital, London. Edited and adapted to the U. S. Pharmacœpia. By HENRY G. PIFFARD, A. M., M. D., Professor of Dermatology, University of the City of New York, Surgeon to Charity Hospital, etc. [New York: William Wood & Co., 27 Great Jones street. 1879.]

A COMPENDIUM OF THE MOST IMPORTANT DRUGS, with their Doses, according to the Metric System. By WM. F. WHITNEY, M. D., and F. H. CLARK, Apothecary to the Boston Dispensary. [Boston: A. Williams & Co., Medical Publishers. 1879.]

A MANUAL OF MIDWIFERY FOR MIDWIVES AND MEDICAL STUDENTS. By FANCOURT BARNS, M. D., Aber. M. R. C. P., London; Physician to the General Lying-in Hospital and to the British Lying-in Hospital, etc. With illustrations; pp. 201; 16mo. [Philadelphia: Henry C. Lea, 1879.]

TRANSACTIONS OF THE THIRTY-SECOND ANNUAL MEETING OF THE OHIO STATE MEDICAL SOCIETY, held at Put-in-Bay, June 12th, 13th and 14th, 1877. [Cincinnati: Mallory & Webb, 1877.]

OBSERVATIONS ON AMPHORIC RESPIRATION AND AMPHORIC RESPIRATORY ECHO. By M. L. JAMES, M. D., President Richmond Academy of Medicine.

Twenty-First Annual Announcement of the Chicago Medical College, Medical Department of the Northwestern University, Chicago, Ill. For the session of 1879–80. Chicago. 1879.

Chronic Spasmodic Stricture, or Urethrismus. Second paper in reply to Dr. H. B. Sands. By F. N. Otis, M. D. [Reprinted from the *Hospital Gazette*, June 28, 1879.

Long Life and How to Reach It. By Joseph G. Richardson, M. D., Philadelphia. [Lindsay & Blakiston, 1879.]

Hearing and How to Keep It. By Charles H. Burnett, M. D., Philadelphia. [Lindsay & Blakiston, 1879.]

College of Physicians and Surgeons, New York. Medical Department of Columbia College. Seventy-second Annual Catalogue and Announcements. New York, 1879.

The Yellow Fever Germ on Coast and Inland. A discussion of Ship and Railroad Quarantine. Read before the Medical Association of Georgia, at Rome, April 18, 1879. By Henry Fraser Campbell, M. D., Augusta, Ga. [Reprint from the Transactions.]

Remarks on Ovariotomy, with relation of Cases and Peculiarities in Treatment. By Nathan Bozeman, M. D., New York, Surgeon to the Woman's Hospital of the State of New York, etc. Reprinted from *The Medical Record*, July and August, 1879. [New York, William Wood & Co. 1879.]

Yellow Fever, Its Origin and Relation to other Malarial Fevers. By J. G. Westmoreland, M. D., Atlanta, Ga. [From Transactions Medical Association of Georgia.]

The Metric System. By J. F. Baldwin, M. D., Columbus, O., Professor of Anatomy, Columbus Medical College, Remarks made before the Ohio State Medical Society, June 3d, 1879. Published by order of the Society.

Extirpation of the Bones of the Nose and Mouth by the use the Surgical Engine. By D. H. Goodwillie, M. D., D. D. S., New York City. Reprinted from *The Medical Record*, July, 1879. [New York; William Wood & Company, 1879.]

Notes of Hospital and Private Practice. By Henry Gibbons, Sr., M. D., of San Francisco, Cal.

A New Operation for Entropion and Trichiasis. By F. C. Holz, M. D., Ophthalmic Surgeon to Illinois Charitable Eye and Ear Infirmary, and to the Alexian Brothers' Hospital, Chicago. [Published in the *Archives of Ophthalmology*, vol. viii. No. 2. Chicago, 1879.]

History of the Discovery of Anæsthesia. By J. Marion Sims, M. D., M. A., LL. D., From *Virginia Medical Monthly*, May, 1877.

Dermatitis Venenata; or Rhus Toxicodendron and its Action. By Roswell Park, A. M., M. D. [Reprinted from *Archives of Dermatology*, July, 1879.

A few well Established Facts in Connection with Squint. By Julian J. Chisholm, M. D. [Reprint from Transactions of Medical and Chirurgical Faculty of Maryland. Baltimore. 1879.]

Report to His Excellency, the Governor, of the Thirty-seventh Missouri University Catalogue, 1878-1879. (Triennial.) Founded 1820—organized in 1840.

Transactions of the Medical and Chirurgical Faculty of the State of Maryland, at its Eighty-first Annual Session, held at Baltimore, Md. April. 1879.

Beiträ zur Anatomie, Physiologie und Pathologie Der Cilien, mit Berügksightigung Der Haare Uberhaupt. Inaugural—Dissertation von Ernst Mähly aus Basel. Mit Wier Lithographirten Tafeln. Ausserordentliches Beilageheft zu den Klinisghen Monatsblättern Für Augenheilkunde, xvii. Jahrgang. Struttgart, Verlag Von Ferdinand Eenke. 1879.

Contributions to the Anatomy, Physiology, and Pathology of the Cilia and of the hairs generally. Inaugural Dissertation by Ernst Mähly of Basel, with four lithographic plates. Supplement to the Klinisghen Monatsblättern Für Augenheilkunde, volume xvii. Stuttgart: Ferdinand Enke. 1879.

Anatomische Untersuchungen Atrophischer Sehnerven mit Einem Beitrag, Zur Frage der Sehnervenkreuzung im Chiasma, von M. Kellermann. Mit Einer Lithographirten Tafel. Ausserordentliches Beilageheft Zu Den Klinisghen Monatsblättern Für Augenheilkunde xvii. Jahrgang. Struttgart, Verlag Von Ferdinand Enke. 1879.

Anatomical investigations of atrophic optic nerves with a contribution to the question of the decussation of the optic nerves in the chiasm, by M. Kellerman. With a lithographic plate. Supplement to the Klinische Monatsblæter fur Augenheil kunde. Stuttgart Ferdinand Enke, 1879.

New Instruments.

A NEW AND SIMPLE APPLIANCE FOR FRACTURED CLAVICLE. By W. E. GLENN, M. D., of Rolla, Missouri.

The following is a description with diagrams of a simple appliance, consisting of a splint and belts, designed by me for the treatment of fractured clavicle, and of certain injuries of the shoulder wherein it is necessary to raise and support the arm:

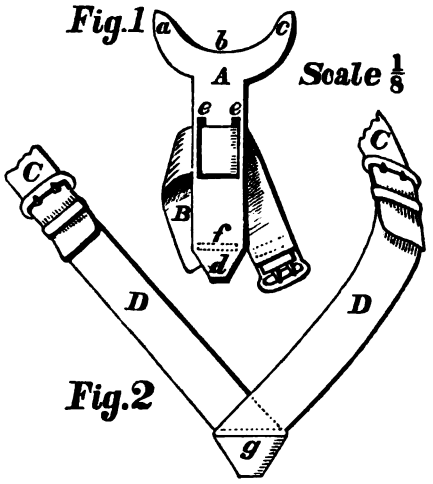

Fig. 2 represents the splint (*A*) and arm-belt (*B*). Fig. 3 the cross-belt that supports the splint and holds it in position.

The splint resembles the arm-piece (a cross) with part of the staff of an ordinary crutch and is made of any light wood. The belts may be made of webbing — not too thick — or of hemmed muslin, the dimensions of which, suitable for an average adult, should be about as follows: Across the arm-piece (*a* to *c*), inside measurement, five and a half inches, and half an inch thick at b. The staff (*b* to *d*) ten inches long and two and one-fourth inches wide, tapering at lower end, and one-fourth of an inch in thickness. Three and a half inches from the hollow of the arm-piece are two mortises (*e e*), each two and a half inches long and one-fourth of an inch wide, placed about one-fourth of an inch from either edge of the staff. Through these mortised holes the belt (*b*), two inches wide by sixteen inches long, armed with a buckle near one end, passes, as represented in the cut. The cross-belt (fig. 2) that supports the splint *in situ* is two inches wide and is divided into two sections (*c* and

d). The upper section (*c*) crosses over the sound shoulder and is twenty-two inches long. The lower section (*d*), about thirty inches in length with the part included in forming the pocket (*g*) which is made by folding and sewing the belt in its middle. An inch or two from either end of *d*, a buckle is attached wide enough to receive and hold the corresponding end of c.

The application is simple and speedy. The fracture having been reduced and the arm of injured side being supported, the arm-piece of the splint, well padded with some cotton retained by a few turns of a roller, is placed in the axilla and the pocket (*g*) in the belt, passed over the lower and tapering end of the staff. Upper section (*c*) placed over the opposite shoulder is buckled to the lower section (*d*) after both have been drawn moderately tight, into position. Under c where it passes over the shoulder a pledget of cotton may be put to prevent chafing. The humerus is then pressed gently to the side and confined by the arm-belt (*b*).

If required, the splint and belts may be supplemented by a sling to support the fore-arm attached to upper section (*c*) of cross-belt. In children and restless patients, the belt (*b*) may be made long enough to include both arm and body, but I have but once in my practice considered it necessary.

The size of splint is to be modified by conditions. For small adults and women a smaller splint may be used and a still smaller one, with narrow belts, for children. Instead of the supporting cross-belt (fig. 2.) being in two sections, one long single belt could be used. In this case a third mortise (fig. 1) would have to be made, through which the belt would pass from the sound shoulder. This would dispense entirely with the pocket and one buckle, and economize somewhat in the belt.

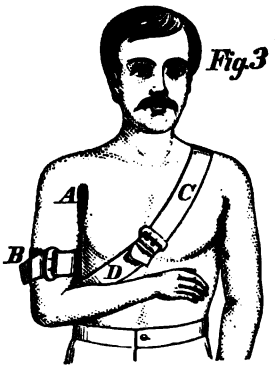

Fig.3

Where material is scarce or in an emergent case, it would be easy to improvise a splint out of a piece of half-inch pine (or whittle to the shape, a thick clap-board as I have done). This padded and held in place by a four-inch strip of domestic doubled on itself lengthwise as a cross-belt, the ends passing through the mortise (fig. 1*f*) and tied in a firm knot, would answer

a good purpose, another strip of domestic binding the arm.

Fig. 3 shows the apppliance fitted. Support is afforded and traction obtained from the sound shoulder without multiplying bandages, an especial advantage in warm weather. The splint will not absorb moisture *per se* like soft pads, and its crutch-like shape will prevent its disarrangement. Its construction is simple and ready, and once made will last a life-long practice, while a piece of fresh cotton and a new roller will render it clean as ever, and acceptable to successive patients.

I claim for this appliance simplicity, economy, celerity of adjustment, either over or beneath (preferably beneath) the under clothing, comfort to the patient, perfect adaptability and security against displacement of the fractured bone.

News Items.

THE Tri-State Medical Society will meet on the first Tuesday in November, at Evansville, Ind.

WE UNDERSTAND that Prof. Hiram Christopher has been appointed to the Chair of Chemistry in the St. Joseph Medical College. Through our long acquaintance with him, knowing him both as companion and tutor, we are certain that he will give satisfaction.

WE ARE pleased to announce that Dr. Jno. T. Hodgen has returned from attending the British Medical Association. Our readers are indebted to him for the synopsis of this large association.

LINDSAY & BLAKISTON, of Philadelphia, are issuing a popular series of medical, hygienic and scientific books, denominated "American Health Primers." These primers are edited by Dr. W. W. Keen, of Philadelphia. They will deal largely in the science of preventive medicine, and are really intended to prevent disease and to enlighten the public generally on hygienic matters. There are eleven of these small volumes which treat of the following subjects: "Hearing and How to Keep it." "Long Life and How to Reach it." Sea Air and Sea Bathing." "The Summer and its Diseases." "Eyesight and How to Care for it." "The Throat and the Voice." "The Winter and its Dangers." "The Mouth and the Teeth." "Our Homes." "The Skin in Health and Disease." "Brain Work and Over Work."

METEOROLOGICAL OBSERVATIONS.

By A. WISLIZENUS, M. D.

The following observations of daily temperature in St. Louis are made with a MAXIMUM and MINIMUM thermometer (of Green, N. Y.). The daily minimun occurs generally in night, the maximum at p. m. The monthly mean of the daily minima and maxima added and divided by two, gives quite a reliable mean of the monthly temperature.

THERMOMETER, FAHRENHEIT—AUGUST, 1879.

Day of Month.	Minimum.	Maximum.	Day of Month	Minimum.	Maximum.
1	73.0	94.0	18	58.0	77.5
2	75.0	95.0	19	62 0	81.0
3	77.0	97.0	20	65.5	88.0
4	79.0	**97.5**	21	69.0	89.0
5	81.5	95.0	22	69.5	91.0
6	71.0	91.0	23	69 0	86.0
7	74.0	86.5	24	65 0	70.5
8	65.0	77.0	25	61 0	78.5
9	61.5	80.0	26	63.5	81.0
10	63.5	83.0	27	66 0	83.0
11	65.5	86.0	28	68.0	84.5
12	68.5	87.5	29	67.0	86.0
13	69.0	88.0	30	67.5	87.5
14	71.0	78.5	31	69.0	81.0
15	66.5	69.0			
16	61.5	73.0	Means	67.7	84.8
17	**56.0**	75 0	Monthly Mean	76 2	

Quantity of rainfall, 2.22 inches.

MORTALITY REPORT.---CITY OF ST. LOUIS.

FROM JULY 20, 1879, TO AUGUST 16, 1879, INCLUSIVE.

Septicæmia		Cholera Infantum	135	Hydrocephalus & Tubercular Meningitis	14	Apoplexy	5
Measles	3	Inanition, Want of Breast Milk, etc.	23	Meningitis and Encephalitis	25	Cyanosis and Atelectasis	
Syphilis	2	Alcoholism	3	Other Diseases of the Brain and Nervous System	27	Premature & Preternatural Birth	11
Scarlatina	5	Rheumatism and Gout		Cirrhosis of Liver and Hepatitis	7	Surgical Operat'ns	
Pyæmia	5	Cancer	7	Enteritis, Gastro-Enteritis, Peritonitis, and Gastritis	14	Deaths by Suicide	9
Erysipelas	3	Phthisis Pulmon.	62	Bright's Disease and Nephritis	9	Deaths by Accid't	14
Diphtheria	5	Bronchitis	5	Other Diseases of Urinary Organs	1	Total Deaths from all Causes	634
Membranous Croup		Senility	15	Recto-Pharyngeal Abscess		Total Zymotic Diseases	273
Whooping Cough	8	Pneumonia	9			Total Constitutional Diseases	116
Atheromatosis Ater		Heart Diseases	20			Total Local Diseases	199
Effects of Solar Heat	4	Other Diseases of Respir'y Organs	11			Total Develop'tal Diseases	29
Typhoid Fever	21	Entro-Colitis				Deaths by Viol'ce	16
Cerebro Spinal Fe.	2	Marasmus—Tabes Mesenterica and Scrofula	32				
Remittent, Intermittent, Typho-Malarial, Congestive & Simple Contin'd Fevers	27	Convulsions	62				
Puerperal Disea's.	1	Aneurism					
Diarrhœal "	28						

CHAS. W. FRANCIS, *Health Commissioner.*

THE

SAINT LOUIS

MEDICAL AND SURGICAL

Journal.

VOL. XXXVII——OCTOBER, 1879——No. 4.

Original Contributions.

ARTICLE X.

SLOW OR FAST EATING—WHICH? By JAS. F. HIBBERD, M. D. of Richmond, Ind.

Perhaps from time immemorial, surely for many generations of men, the popular professional idea has been that rapid eating was pernicious, and should be avoided by all persons. The objections to rapid eating were not always formulated in the mind of the physician, its prohibition being looked upon by many of them as axiomatic, or as one of those professional maxims to be accepted without question, and urged on the populace, as a rule of action, on all suitable occasions.

When a teacher essayed to assign a reason for the reigning doctrine, one of scientific accuracy was supposed to be found in the assertion that fast eating forbade the proper mastication and insalivation of the food, which, reaching the stomach insufficiently comminuted, the gastric juice could act only on the out-

side of the ingesta as presented, and thus involved an unnecessary measure of time in the solution of the food in the stomach; while, on the other hand, if mastication were thoroughly performed, it necessarily induced a complete mixture of the food with the saliva—which was supposed to be a valuable initial step in the solution of the aliment—and then sent it to the stomach in such comminuted state that the gastric juice could at once penetrate all through it, and by virtue of the extensive surface simultaneously attacked effect its solution in a comparatively brief period, and this rapidity of solution in the gastric fluid seemed to be accounted, *nolens volens*, the desideratum in stomach digestion? Is this true?

Whether true or not, it had such possession of the mind of the physiologist at the time that Dr. Beaumont had the opportunity of investigating the operations of St. Martin's stomach after eating, through a fistula, that his chief aim seems to have been to determine the precise time that each kind of food was held in the stomach while undergoing solution in the gastric juice. These experiments of Dr. Beaumont began in 1825, and the results were laid before the world in detail in 1834, since which time no physiological author has written on digestion without quoting Dr. Beaumont's conclusions, and nearly all such authors according to these conclusions the force and favor of demonstrated truths, declaring that what was most quickly dissolved in the stomach was the most healthy and desirable food. Why should it be?

Professional teaching has converted the world, and there is not now a layman, neophyte or veteran in digestive lore who does not solemnly warn all whom it is his privilege to advise that the fundamental principle in healthy digestion demands eating slowly, and thorough mastication of food. Is he right?

Is there an intelligent physician who has made acute use of his opportunities for observation that can confirm the popular and professional ideas about hasty meals? These questions are propounded to Dr. Blank, and it is desired that every physician who reads this article will consider himself the Dr. Blank now and here addressed: Do you know a healthy man who habitually eats his meals slowly? Do you know an unhealthy man whose habit it is to take his food rapidly? In casting your mental vision over the customs of your patients and intimate friends whose acts of eating you can thus recall and examine, do you not find that all those who are healthy, active and strong,

are rapid eaters? And do you not also find that a large per centage of those who are unhealthy, inactive and feeble, devote much time to the comminution of their food through the ordinary table appliances and mastication? What say you?

Do not rush into a hasty and ill considered reply. Take time; use deliberation; discard preconceived opinions; abandon prejudices, however old and honored; observe cautiously and critically; and answer candidly, and your answer shall have the power and prestige due to the offering of a discreet physician who has reasoned logically from correct premises, and this equally whether it be an affirmation or negation of the problem presented. The truth is our goal!

Many active business men of all classes are quick eaters, and some of them are the victims of indigestion, but it is believed that investigation will reveal the fact that these dyspeptics are such by virtue of a peculiar nervous organization, in no wise due to hasty meals. How is that?

For years it has been a conviction of the writer that the universal idea that fast eating was invariably mischievous, was erroneous, and this conviction had its genesis in common observation. If one keep his eyes open while he chances to be an eater at many private tables; at various *tables d'hote;* at numerous railroad dining halls; at occasional crowded pleasure resorts; at the uncertain tables of long ocean voyages; or at the limited accommodations of the camp mess, he cannot but conclude that fast eating does not break down the health of every one who indulges in it, nor even induces some form of protean dyspepsia. Try and see!

But this impression, originating in observation, has been confirmed by advanced knowledge of the physiology of digestion. One cannot follow the more recent teachings of those who have given acutest attention to the role of the mouth, the stomach and the intestines in the process of digestion without realizing that the opprobrium heaped upon fast eating is not deserved. It is not within the purview of this brief paper to present even an epitome of the prevalent doctrine in regard to the varied service of the several interior cavities of our bodies in the solution of our daily food to fit it for absorption and assimilation; but it may be appropriate to recite a part of some experiments recorded by William Browning, Ph. D. (P. S. M., July, '79), as follows: "If the meat, before being fed to the dog, was re-

duced to hash or cut into fine pieces, the digestion was at best but imperfect, a considerable portion of the undigested or imperfectly digested meat being found in the excreta. If under the same conditions, meat was fed to the dog in large pieces, it was bolted at a gulp, with the result that little, if any, passed through undigested; compared with the result from the chopped meat, it could be called a perfect digestion for the coarse form as compared with a decidedly imperfect digestion for the fine form. So far as simple experiment goes, this must be pretty conclusive for the dog."

Theoretically a like imperfect digestion would obtain in man under similar circumstances. "The rotary movement of the contents of the stomach is to facilitate the action of the gastric juice, to bring the various particles and lumps of the entire mass into contact with it as it exudes from the stomach's walls. If the material has come from the mouth finely ground up, a considerable portion goes over into the duodenum before it has been properly acted upon; but if it has come down in coarse lumps, these begin shortly to dissolve, passing into a more or less fluid condition, and this can be taken care of with about the same rapidity by the digestive apparatus following. By this arrangement no portion of the food would be allowed to pass from the stomach unprepared for the next step in the digestive process. All portions then, even the finest fibers of meat diet, must be acted on by the gastric juice before passing on, and this progresses best by slowly wearing off the outside of the muscles.

Prof. Ludwig has made some general experiments as to the truth of this theory upon himself, eating coarsely cut meat at one time and fine at another, without at least being able to detect any ill effects whatever from morsels as large as it was convenient to swallow.

"To conclude, then, with respect to man, as well as other flesh-eaters: It is not only not necessary, but also not best, to chew meat of any kind to a fine condition, but to swallow it in convenient morsels; this militates against hash."

This quoted testimony is confined to the eating of meat, but the same reasoning will apply to any kind of food that contains proteid matter the stomach digestion should convert into peptones.

There is a lesson of practical value in these conclusions, but it does not consist in every doctor making it a constant duty to

lecture all men on the necessity of bolting their food if they hope to preserve their health; this would be swinging the pendulum of folly to the other end of its arc. The good of our study is to be found in allowing healthy men to eat, so far as speed is concerned, according to their wont or wish; permitting them, without threats of dyspeptic penalties, to follow their habit of eating, whether derived from instinct or ratiocination. This will save men from the weariness of a vast amount of unnecessary lecturing, and in the end redound to the credit of physicians, for the present status of affairs is about this: The doctors are constantly urging the necessity of eating slowly, predicting the direst dyspepsia, to say nothing of other ills, as the consequence of the neglect of their injunctions, while the healthy men pay no regard to the doctors' advice, eat according to their bent, and suffer no inconvenience therefrom; and this is good for the healthy men, but their clients thus prove the doctors to be poor scientists and bad prophets, and accordingly losing a modicum of faith in the doctors' qualifications, and completely wrecking the idea of their infallibility in professional affairs; and this is bad for the doctors.

ARTICLE XI.

A CASE OF DIABETES MELITURIA—PERSONAL HISTORY OF DR. T. J. MONTGOMERY'S CASE. By J. W. TRADER, M. D., of Sedalia, Mo.

There are many diseases that seem to stand forth as a perpetual reproach to medicine as a science. Our knowledge of their etiology and pathology does not always give us a clue to the remedies calculated to change morbific causes, or to restore the lost equilibrium of the system. Among those diseases there are none more dreaded than diabetes melitus and its kindred disorders. I shall not attempt a scientific treatise upon this subject, but will simply give a personal history of Dr. T. J. Montgomery's case, who fell a victim to this malady. In doing this I shall use principally the notes left by the Doctor himself; hence the frequent repetition of the personal pronoun.

"I noticed last June (1875) an increased flow of urine, the amount gradually increasing. About the middle of November I had the urine examined for sugar, and found 30 grs. to the oz., by the yeast test, as reported by my partner, Dr. Trader; s. g. 1040, acid reaction. Commenced treatment with pills of opium and belladonna twice a day, and one-half to two-thirds teaspoonful elix. iodo-bromide cal. comp. three times a day. Diet same as usual. In eight or ten days urine 1025, but still loaded with sugar, with alkaline reaction. I had suffered considerably with pain in the small of my back, and great thirst; these symptoms somewhat abated. About this time I procured eight gallons of the water of Bethesda Springs, at Waukesha, Wis.; I commenced using it freely, but made no change in diet. After four days we tested urine; s. g. 1025, with plenty of sugar, though not so much; pain in back relieved, and thirst comparatively gone. Saturday morning at breatfast I ate ordinary diet, but from that time on ate nothing containing starch or sugar. On Monday, the 6th December, had urine tested; s. g. 1015—no sugar, not even a trace. From that time on until to-day I have tasted nothing containing starch or sugar, s. g. and quantity passed both diminishing until now; s. g. 1005, acid reaction; quantity passed little more than normal; no sugar.

"Dec. 10th.—Ate at dinner (2 o'clock) yesterday a few small

crackers and three small apples. Urine two hours after dinner, s. g. 1015. Specimen taken this morning of what was passed last night showed s. g. 1018. To-day at 10 o'clock s. g. 1014. Ate two small apples at 11 o'clock A. M.; drank five glasses of water yesterday. Tested again two hours and a half after eating apples to-day; found s. g. 1014. *Ergo*, apples may be eaten. Ate nothing to-day containing sugar or starch, except the apples; they contain a little sugar. Amount of urine passed last twenty-four hours, 43 oz.

"Dec. 11th.—At dinner to-day ate four oz. corn bread, also at breakfast ate five oz. Urine this morning, s. g. 1022; this is urine passed during the night; find plenty of sugar in this urine. Commenced to-day my meat and egg diet at dinner. Amount of urine passed in twenty-four hours, 37 oz.

"Dec. 12th.—Continue meat and egg diet, with milk. Amount of urine discharged, 56 oz.; s. g. 1007; temp., 97° Fah. Did not test for sugar; presume there is none. Ate almonds occasionally; do not see that they make any change in the urine.

"Dec. 13th.—Last night's urine s. g. 1015; that discharged at 10 A. M., s. g. 1014. Ate dinner (at 4 o'clock P. M., nearly), of beef, eggs and milk. Took one-half oz. of brandy and ate one and a-half apples in the evening. Amount of urine in twenty-four hours, 40 oz.

"Dec. 14th.—Last night's urine, s. g. 1020. Query: Is the increased s. g. owing to the apples or brandy taken last night, or to the smaller amount of urine discharged? I think the latter. My weight to-day is 99½ lbs., with my winter clothes on. Last summer my highest weight was 104 lbs., the most I ever weighed in my life, from the age of 25 to 45 years. My health was good, and my standing weight 98 lbs. Temp. at 12 M. to-day, 100°. Amount of urine discharged in last twenty-four hours, 46 oz.

Dec. 15th—S. g. of urine last night, 1016. Ate one apple last evening and a dozen or two of almonds. Animal heat, 99°. Amount of urine discharged in twenty-four hours, 35 oz. Not tested for acid.

"Dec. 16th.—Amount passed last twenty-four hours, 39 oz.; s. g., 1018, highly acid.

"Dec. 17th.—Amount passed in last twenty-four hours, 34 oz.; s. g. 1016, highly acid; no sugar, Temp. not taken.

"Dec. 18th.—Amount of urine passed last twenty-four hours, 29½ oz.; s. g. 1015; temp. 99°. For the last eight or ten days

have drank at least one quart of the Bethesda water per diem. Have also taken every night, since treatment with the water commenced, a pill containing morphia, 1-7 gr.; belladonna, 1-8 gr.; Dover's powder, 3 grs.; podophyllin, 1-5 gr. I take this pill on account of an old bronchitis, from which I have suffered for years. While it relieves all distress from the throat and bronchia, it does not interfere in any way that I can perceive with the diabetes, except to lessen the amount of urine through the night.

"Dec. 19th.—Urine passed to-day, 44 oz. Did not test it in any way. Ate four apples during the day. Took on evening of the 18th one-half oz. brandy, with water. Think it was that which increased the flow of urine during the next twenty-four hours.

"Dec. 20th.—Urine passed during last twenty-four hours, 36 oz. Tested it for sugar, and found none. Ate four apples yesterday. S. g. 1020. Passed only 10 oz. less last night, of which a specimen was tested. I think the small amount passed was the cause of the increased weight; very acid.

"Dec. 21st.—Passed in last twenty-four hours — oz.; passed only 9 oz. during the night. Forgot to bring any of last night's urine to test, but tested some drawn at 10 o'clock A. M.; s. g. 1015. Have just received a letter from Col. Richard Dunbar, proprietor of the Bethesda Spring, the water of which I am using. He tells me I can go on mixed diet if I will still use plenty of the water. Very good news, as I am getting tired of meat and eggs. But, unfortunately, am out of the water. Have sent for another half barrel, which, as soon as it comes, will commence using, and try a little bread. [Note.—Here was a sad mistake in abandoning the absolute diet.] Will not continue this as a daily history after to-day, but will jot down occasionally if anything worth noting comes up.

"Dec. 24th.—Ate bread and took sugar in coffee from 21st to yesterday (23d) at breakfast. Yesterday tested urine, and found sugar in it; s. g. 1012. Ate no bread or sugar since yesterday. Found no sugar to-day; s. g 1012.

"Dec. 28th.—My spring water gave out on the 25th inst. Had but one glass that morning—none since. Have eaten nothing containing sugar or starch since, except apples. To-day urine is greatly decreased in quantity, s. g. 1025, and sugar quite plenty.

"Jan. 3d, 1876.—Received a barrel of water from Waukesha

on last Friday evening, 31st Dec., (ult.) Have been drinking it freely since, and living on mixed diet, except potatoes; s. g. of urine to-day, 1010. Tests for sugar showed it rich in sugar, though I feel much better since I have been drinking the water.

"Jan. 11th.—For the last three or four days have been very thirsty, though drinking the water freely. Tested the urine to-day; found abundance of sugar; s. g. 1030. Shall resume fixed diet at once, as I am driven to the conclusion that the water has very little curative effect while living on starchy and saccharine food.

"Feb. 18th.—Since last date I have lived on absolute diet, but the desire for starchy food became so great that I renewed it on the 22d. Have eaten everything I desired, except potatoes and sugary articles. Have for several days past taken a little sugar in my coffee and tea. Have also continued the use of the Bethesda water freely, This water, I am sure, keeps up a good appetite. My strength and weight remain normal, although my urine is s. g. 1030–'35, and loaded with sugar. No need for testing it, as it leaves a syrupy, sticking feeling wherever it falls By advice of Dr. D. V. Dean, of St. Louis, I commenced, to-day at dinner, the use of lactic acid, 10 m., in a dessertspoonful of glycerine, and half a glass of water, at each meal. Continue to use farinaceous diet, with a little sugar in tea and coffee, and drinking Bethesda water whenever thirsty, instead of ordinary water. I am now passing from 40 to 50 oz. of water every twenty-four hours.

"March 13th.—Up to last Saturday (12th) I continued the above treatment. Urine increased to 60 or 80 oz. per twenty-four hours; sugar abundant. On that day I commenced living on milk, eggs and beef—no starchy or saccharine food. The s. g. on the 12th was 1035; to-day it is 1030. I shall try this treatment for a while—that is, the lactic acid and non-farinaceons and non-saccharine diet.

"March 20th.—Pursued the lactic acid treatment, as above, until to-day; s. g. 1034. Tested for sugar to-day, and found plenty of it. This morning commenced skimmed-milk treatment. Will continue it as long as possible, and note results.

"March 25th.—Discharged in last twenty-four hours 40 oz. To-day I am passing a much larger amount of urine than usual. I continued the skimmed-milk treatment until noon yesterday; the quantity of water was greatly increased—went up one day

to 90 oz. All the water of the milk seems to go through the kidneys; s. g. was sometimes as low as 1012, and the next day up to 1030. My head is troubling me a good deal—severe vertigo—sometimes almost past walking. I was constantly hungry, though drinking from six to eight pints a day[1]. Yesterday at noon I felt so badly that I ordered some eggs and beef. Ate them again this morning, and now feel greatly better. Resumed the lactic acid, 20 m., three times a day—that is, 1 dr. per diem.

"April 14th.—Continued the lactic acid for some two weeks, until it disagreed with my stomach so greatly that I was forced to abandon it. Have since taken nothing, but continued the beef and eggs until some five or six days ago, when, finding by experiment that the eggs kept up the s. g. of the urine to 1030, I abandoned the eggs, and am now living alone on meat and milk, taking occasionally lettuce and cabbage. Urine nearly normal in quantity; s. g. from 1010 to 1025, but find on testing plenty of sugar to-day, though I have no thirst and no unpleasant symptoms, and were it not for the sugar in the urine, would feel like I was well. I take every day, at dinner and supper, about an ounce of brandy."

This closes the systematic record of Dr. Montgomery's case as kept by himself. About the first of June, 1876, as the weather became warmer, he concluded to take rooms for awhile at the Sweet Springs, near Brownsville, Saline county, Mo., and try the virtue of these waters. At the time of going to the Springs he was quite feeble—still continuing the absolute diet of beef and milk, and using no special medication except his brandy and water, and belladonna pill. On the 8th of June, or six weeks after the last entry, I received a letter from him saying: "I have made no tests of the urine since I came here, and shall not until the last of next week, as that will give me time to see whether I can hope for anything. I am feeling first-rate and enjoying myself hugely. The rest of the boarders live like fighting cocks, while I sit in the midst of luxurious abundance and eat my beefsteak and eggs. But I am getting so used to it that the self-denial is becoming less and less every day."

On June 22d I received another letter from him saying: "I do not think I would be justified in leaving the Springs for a day

1. I will here state that the Doctor was urged to use skimmed milk alone while taking the lactic acid.

while its water is doing me so much good. I analyzed my urine again yesterday and find not a trace of sugar in it." On the 21th I received another letter stating that he would come up last of next week to spend three or four days, taking in the 4th of July.

After his return to Sedalia in July, he was strongly importuned to visit the Bethesda Spring at Waukesha, Wis., with the hope of completing a cure. Accordingly, about the 15th of July he, in company with his wife, started for that place. On the 20th, the second day after his arrival, he wrote me as follows: "We reached here day before yesterday, well, but very tired. The weather is intensely hot; more so, I think, than in Sedalia. The people here say it is an unusual spell. I find the Bethesda Spring a bold and beautiful spring of deliciously cold water, and hundreds of persons drinking it. I have already made the acquaintance of some six or eight diabetics, all of whom say that they are getting better, and some who are fully well. No doubt is felt here, by any one, as to the curability of diabetes and Bright's disease—the latter when not too far gone—by these waters. We are permitted to eat anything we want except potatoes and pastry—'take as much bread as you please'—I tell you I enjoy the bread hugely. I have been eating what bread I pleased since coming here, and to-day went through a thorough examination. My case is pronounced curable, but my liver is pronounced considerably diseased, but that also is said to be easily cured by the water."

August 1st he wrote:—"I find no special improvement in my case, but find no increase of sugar or other symptoms while eating as much bread as I want. My strength has greatly increased, so that on the whole I regard myself as improving."

August 5th:—"I am getting along only tolerably at present. Haven't felt so well for several days. Don't know what is the cause. I suffer just like in all other cases; patients will sometimes advance backward in spite of physic, then rally and go all right."

August 15th:—"My urine to-day stands at 1035 s. g. with plenty of sugar in it. To be sure I am eating all the bread I wish, and but for this would soon go down. It keeps me up, and I feel much better as the bread keeps me nourished. This water proposes to cure and let you eat all the bread you want. But so far it has not succeeded in my case."

He returned home about the first of September very much prostrated and with all the symptoms aggravated. He was urged to return to the absolute diet at once, and at the same time use freely of the Bethesda water. He procured some diabetic flour and that, together with the meat diet, seemed to improve his health very much. But the urine did not seem disposed to return to a normal standard, although at times very much improved. Cramping of muscles of the legs, not only gave a great deal of pain, but materially interfered with walking, so that a crutch had to be used part of the time. The winter of '76 and '77 was spent in Sedalia with no permanent improvement, but rather a gradual letting down of the powers of life. Early in the spring of 1878 he concluded to again try the Sweet Springs water at Brownsville. In the meantime he had heard glowing accounts of a famous spring in Ohio.

April 19th he writes from Brownsville: "This cool wet weather is rather trying on me, and, if it does not hold up shortly, will drive me home. I still desire to go to Ohio last of next or first of week after next. I believe now I can stand the trip by making day rides and stopping over nights. I am drinking very little of the water, it is too cool (the weather) to drink it freely; still I think may be I am gaining some." On the last of April he started for Green Springs, Ohio.

On May 3d he writes: "We reached here Tuesday at 2 o'clock P. M., only twenty-nine hours from time of leaving Sedalia (six hundred and fifty miles) without seeming fatigue; but that night felt that I should certainly die from extreme exhaustion—felt that death would be welcome to relieve from the suffering of extreme debility. Slept all day yesterday and last night, and had a grand sleep to-day. Have had two good meals and now feel better than I have for two weeks."

Nothing more was heard from him until his arrival, somewhat unexpected, in Sedalia on Wednesday, May 9th, greatly exhausted. From this time on to the day of his death, May 7th, he was confined to his room.

It is barely possible that, had the absolute diet been strictly adhered to, and kept up for the first year, different results would have been obtained. At all events, from the way improvement followed the use of this diet, aided by the natural spring waters, life might have been prolonged for some years. But it did not seem possible to deny the appetite some starchy food.

My opinion is that, had we never permitted the use of starchy food, and, as experience suggested, adhered to the absolute diet, the diabetes would have yielded, and a measurable degree of health secured. I have very little faith in specific medication in diabetes melitus, or in any diet that does not exclude starchy substances. In this case we no doubt had hepatic trouble, and probably in all cases of this disease there is this complication, but to consider this the primary lesion I believe to be an error. The first appearance of this attack was in the midst of excellent health, without any apparent organic lesion. The Doctor had just passed through a week of excessive mental toil as one of the examiners of the Medical Department of the State University. For some time after his return we thought that, quite likely, the increased flow of urine was caused by this overwork and was simply insipid diabetes. Throughout all this disability he attended to professional duty, when at home, until the last six months of his life. His mind and energies had been so active that now, although over sixty-three years of age, he could not think of quitting the field of labor for any repose his friends might suggest. He could only cease to work when he had ceased to live.

Personally, I feel that I should say something in regard to the character of the individual whose case has been detailed, somewhat lengthily. I made the acquaintance of Dr. Montgomery in the fall of 1862, and from that time I was more or less associated with him, officially and otherwise while he lived. I have known but few men that equaled him in all the amenities of life, and none who excelled him. He was the uniform Christian gentleman and friend. And when life's shadows had lengthened out and the close of his day was proclaimed, like the Athenian philosopher, who only awaited the return of Theoris from her sacred journey to Delos, he drank of the fatal cup in the midst of his weeping friends with composure and but little regret; so our Christian philosopher, having finished his course, was ready to be offered up.

ARTICLE XII.

ADDRESS ON INSANITY.* By C. H. HUGHES, M. D., of St. Louis.

THE PHYSICIAN AS A PSYCHOLOGICAL EXPERT IN COURT.

It being conceded, then, that insanity is a disease, the question first of all to be determined by the physician summoned in a medico-legal inquiry to pass upon the sanity or insanity of a person arraigned before a court, is as to the existence of disease impairing the mind.

The presence or absence of singularities of conduct, of the knowledge of right and wrong, or even of hallucinations, illusions or delusions, are subsidiary to the question of *disease impairing the mind*, though upon these are we sometimes alone or mainly compelled to predicate an opinion, so meagre do we occasionally find the pathological data to be.

Metaphysical conceptions of what ought to constitute a sound mind in persons generally, and as one himself would act under given circumstances, and supposing another insane if he acts differently, mislead the judgment and are liable to get the physician into one of those cunningly devised logical traps that lawyers are so clever at constructing, to the chagrin and discomfiture of unwary and inexperienced men of medicine. A purely metaphysical conception of mental disease is difficult to frame and hard to maintain. A sharp lawyer wants no better victim on the witness stand than an expert so incautious as to attempt such a definition.

If by searching diligently we can find out disease sufficient to account for what appears *prima facia* to be irrational conduct in a person, we should stick to that as the mariner to chart and compass. In battling for disease the medical man ought to be invulnerable. He might fail as a pure psychologist, in crossing swords with a scion of the law.

If erratic conduct and most singular speech be not traceable

* Delivered by invitation before the Southern Illinois Medical Association, at Sparta, Ill., on the evening of June 20th, 1879.

to disease involving the mind, a patient and laborious search may reveal a rational though sometimes base and unexpected motive, to account for them. Before the courts, then, when the existence or non-existence of mental aberration is to be determined, disease is the physician's fort, from which, if he be well informed in symptomatology and morbid processes, he cannot easily be driven.

If, in a person concerning whom the question of insanity has been raised, the physician, on careful examination, finds accompanying or ante dating the outbreak of questionable conduct or even immediately preceding it, any considerable degree of disease implicating the organ of the mind, to say nothing of those graver forms of cerebral disorder, such as softening, epilepsy or apoplexy, accompanied with a family history of ancestral insanity or other serious disease of the brain and nervous system, he will generally find little difficulty in arriving at a satisfactory explanation of erratic speech and actions, that are otherwise inexplicable.

But before he concludes that singular, immoral, or unlawful or apparently unjust actions, are the result of disease, he must be sure that they are not otherwise explainable for what may appear to be the most irrational conduct, while the real motives are hidden from view, may, in reality, when all the influences leading to it are fully revealed, be the most rational and absolutely inexplicable upon any other hypothesis than that of entire mental soundness, as was not long ago aptly illustrated in the case of that prison-hardened outlaw, Frank Rande, the American brigand, the Knox county desperado, the "daring and brilliant young bandit of the Wabash," as he styled himself, who is now serving out at Joliet a life sentence for murder. Rande's life had been one from early manhood mainly of reckless adventure and outlawry and he did many things which persons settled down in life and more regardful of its proprieties and the restraints of society and law would not have done, but he was not insane. His course in life was not the result of disease, but of the corrupting influences of evil communications. He was seldom ever physically indisposed in any way and never lost sleep, except when voluntarily depriving himself of it to plot evil.

In this connection it is interesting to note in your State the gradual invasion into judicial territory of the true idea of

insanity. The prosecution in this trial cited the case of Hopps vs. the People, 31 Ill., p. 390, in which Chief Justice Breese says: "It is now generally conceded that insanity is a disease of the brain, of that mass of matter through and by which that mysterious power, the mind, acts. There the mind is supposed to be enthroned," etc.

With this decision to guide him, and the accordant testimony of the medical experts, Mr. J. J. Tunnicliffe, the able States Attorney, made a most clear and convincing analysis of all the facts and a powerful plea. He concluded that Rande was sane because his change of character was due to adequate external cause, and not disease, "the chief cause of an insane man's action being the disease of the brain."[1]

Thus far our subject seems plain enough, insanity being undoubtedly a disease of the brain, as *post mortem* examinations have always established, where the search for the cerebral lesion has been made with microscopical precision and the eye of a skilled pathologist, and as the physical symptoms during life most frequently reveal.

But there are cases of this disorder, more especially in its chronic form, where our diagnosis must be made mainly, sometimes exclusively, on the psychic symptoms alone. These are the cases which will most perplex and confound the general practitioner, as they may even stagger the best psychological expert, tax to the utmost his ingenuity, call into requisition all the resources he has gained from extensive observation, and cause him to wish he had more. It is one of the mysteries of insanity, that while it is really one of the most serious afflictions of the brain, it sometimes reveals to us the very slightest and with difficulty detected cerebral symptoms, while apparently the gravest forms of disease of the brain do not always and of necessity cause disorder of the mind to such a degree as to constitute insanity.

The physical tumult which ushers in and accompanies the earlier stage of insanity sometimes subsides, leaving only a cerebro-mental scar behind, discernible by no physical sign. The interrogation of the mental workings alone must here be relied on to reveal the existence of disorder in the delicate physical machinery of the mind, in the many-shaped and numberless cells of

1. State of Illinois, Knox County, February term, 1878; People vs. Frank Rande; indictment for murder.

the cerebral cortex, or in the vessels and meninges or cavities of the brain.

There are cases the existence of whose insanity is only a suspicion, or a possibility or probability, based not so much on any marked physical disease perceptibly involving the brain, as in singular conduct and opinions and indubitable hereditary taint, like that of Passanante, who lately attempted the life of the King of Italy. Though a commission of medical inquiry in his own country found no evidence of insanity in him, he was of a nerve degenerate family, three of his brothers and two of his sisters in a family of seven having been insane, and an eminent alienist of great skill and large experience in practical psychiatry[1] entertained no doubt of Passanante being in a state of incubative insanity.

A man of Utopian ideas and one-sided mental culture, rapidity of perception and judgment, uncommon activity of ideas, and expressing them in a manner superior to his station (for he was a cook by trade), keen in attention, rapidly passing from one subject to another, imaginative and profoundly convinced of his own ideas, and ready to bear witness to them with his life, ready, easy and quick of speech, heedless of self and self concerns, of a mild, smiling and sharp physiognomy, sanctifying the love of parents and friends, precocious and fervent in his religious feeling, inveighing against vices and abuses, excusing his crime by saying he wanted to avenge his people, and that ideas ought to be baptized in blood, unmindful of death but tenacious of his principles and scorning to be called a lunatic, as the commission describe him, the manner of action of this common Italian cook whose brothers and sisters all but one have been insane, certainly excites the reasonable suspicion of incubative insanity.

It often happens that a startling crime or astounding folly entirely out of harmony with the individual's known character, for the first time excites suspicion of his mental soundness or by its very flagrant and otherwise inexplicable nature in the person perpetrating it, attests the presence of disease, involving the brain.

Such a case was that of Mr. J. H. Murphy, the St. Louis Mutual Life Insurance clerk who, in the prime of life and with

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1. Dr. Joseph Workman, of Canada, former Superintendent of the Toronto Asylum, in *St. Louis Med. and Surg. Jour.*, May, 1879.

none depending upon him for a support, and possessing a library of near two thousand volumes of the choicest standard works of literature, philosophy, history and art, which had been the constant companion of his leisure hours, took his life in the most deliberate and horrible manner because he feared he might lose his situation.

The change in his manner attracted the attention of his friends, a short time before the tragedy, but I saw him only a few weeks before his death and he then expressed himself as feeling well, as he really appeared. The real proof of his mental aberration was not in an appreciable physical lesion of the brain, but in his history of prior insanity. He was, years ago, a patient of mine at Fulton. He had then attempted his life by jumping into the Missouri river. He finally succeeded in destroying it by cutting his throat.

In this connection a most enticing field in practical psychiatry into which, for want of time, I dare not enter to-night, is the value of certain psychic symptoms, such as hallucination, illusion and delusion in the determination of certain morbid states and the prognostic significance of some forms of delusion.

Delusions are often of especial significance. An instance of but little appreciable physical disease, coexisting with really grave mental disturbance, was lately presented in the case of Mark Gray, the stage struck youth who shot at Edwin Booth in McVicker's Theater, and I have now under treatment, at my home in St. Louis, a young man from a remote part of Missouri, undoubtedly insane, who presents no physical evidence of disease, save insomnia, that any one might not have and be perfectly rational. Both of these gentlemen however have delusions.

The extravagances of the insane mind sometimes astonish us, fortunately, however, not often, without appreciable physical disease to account for them.

The vagaries of the rational mind do likewise sometimes surprise us as we see them recorded in the history of the human race and in the fanatical conduct and follies of individuals, as well as States and communities, not to be extenuated or covered by the charitable mantle of cerebral disease. We see this aptly illustrated in the late Pocasset tragedy, where a devoted father, apparently without cerebro-mental disease, without anger, but in obedience to the impulse of a long matured and blind fanaticism

plunged the cruel blade into the heart of his child, fanatically or morbidly firm in the faith that the same invisible hand that stayed the uplifted arm of Abraham of old and arrested the death of his son, would likewise stay his hand ere the fatal knife, in its descent, might reach the heart of his child, and whose faith in the power and disposition of God to restore the child's life persisted after its little trusting heart had ceased to beat, and the earth had hidden from view forever the lifeless handiwork of Freeman's folly.

Instances of faith as strong as that of Freeman and his wife, where an unshakable belief in the omnipotence of implicit, unquestioning faith to bring about whatever is undoubtingly asked, are not only historically numerous, but they are of every day observation, though such tragic culminations as that at Pocasset are not common.

Was Freeman insane? Was his wife, consenting to the bloody, unnatural deed, insane? Were the twenty Second Adventists at Pocasset, who justified and kept secret this horror, deluded by reason of disease involving the seat of mentality, or by a blind fanaticism? Is the Hindoo mother who casts her child to the crocodiles of the Ganges insane? Was Abraham mentally deranged? How cautious must be our answer.

Abraham, we are told in sacred story, was not deceived. He trusted not in vain; but in these latter days, an egotism akin to madness, sometimes supplements the faith of old.

There are many victims of misplaced and unwarranted confidence in God, by reason of misunderstanding of themselves and misinterpretation of "the Word," and yet they are not all insane, though the explanation of many singularities of scriptural misinterpretation and eccentricities of religious conduct and belief, as well as strange actions and expressions on other than Bible subjects, is very often to be found in the existence of insidious disease of the brain.

Cases like that of the Pocasset horror will not unfrequently arise to stagger the law's criterion of responsibility, viz., a knowledge of right and wrong, and to confound our definitions of insanity. The mind may be deluded and still not be insane, and there are other conditions than insanity that should mitigate and extenuate crime. There are other questions that engage the thoughtful attention of the psychologist than the criminal and the insane neurosis.

All crime is not disease, Dr. Maudsley to the contrary notwithstanding. A patient of mine once, with but little previous warning to her friends of impending mental overthrow, cut the throats of her two bright and really promising children, under the morbid impression that they were destined to grow up idiotic. Previous loss of sleep and over watchfulness had caused her brain to give way, as Freeman's may have done. In time the cloud passed from her mind, and she recovered to lament and to discern that disease and not her natural self had done the awful deed. This case, placed in juxtaposition to that of Freeman, admonishes us that we must often discuss questions in psychiatry with great caution, and decide them with thoughtful hesitation and prudence.

THE DISTINCTION BETWEEN INSANITY, IDIOCY, IMBECILITY, ECCENTRICITY AND GENIUS.

Insanity defined upon the basis of disease is thus distinct from idiocy and imbecility, by the fact of comparison of the individual in the two latter conditions with himself, revealing no change in mental manifestation dependent upon disease, and no disharmony with his natural self and surroundings in consequence thereof. What the idiot and imbecile are now they have always been, namely, mentally deficient. The eccentric person likewise, though differing from other men in general, has not changed when compared with himself, and so also those "great wits to madmen near allied"—those children of genius renowned for doing things so unlike and beyond the rest of mankind. It is natural for them to soar above the common flock and be singular.

If any other standard than self-comparison were adopted it would not be difficult to make most men out insane, for individuals differ as much from each other as nations do. Indeed, a great English philosopher, observing that there is something odd in most men, called them mad.[1] He had not a true conception of insanity as we have attempted to portray it, based on change of character dependent on disease.

Some writers on the jurisprudence of insanity have *included* idiocy and imbecility in their classification of insanity, while others have drawn a line of demarkation between the congenital deficiency of idiocy, the arrested development of imbecility, and

1. John Locke.

the *disease* insanity. Blandford considers imbeciles and idiots of unsound mind, but "not insane in the ordinary sense of the word." Maudsley, I think, does not discuss the subject, and Esquirol draws the distinction we have given, based upon the difference between cerebral *disease* and congenital brain *deficiency*.

The distinction between idiots and imbeciles is mainly recognizable in the inability of the former and capacity of the latter to converse more or less intelligibly, and in his generally less deformed or contracted crania, while he is distinguished from others of his age by displaying less than average intelligence and far less moral sense.

Hoffbauer makes five degrees of imbecility and three of stupidity, the highest degree of imbecility being not far below the average human intelligence. The subject is ably discussed in Ray's masterpiece on the Jurisprudence of Insanity, and we have not time to give it much attention here. No cases, however, are more puzzling to courts and juries and physicians and guardians than these; none require closer study.

Important questions of personal liberty and rights, of testamentary capacity and responsibilty to law, arise in connection with imbecility. Imbeciles of a certain degree ought not to be permitted to marry, to make a contract or a will, or to be held responsible for a crime.

Hoffbauer made the grave mistake, as Dr. Ray has pointed out,[1] of omitting the state of the moral faculties in his description of the various grades of imbecility, for no fact is better attested by observation than that many imbeciles are glaringly deficient in moral sense, while in a very large number the moral deficiency exceeds the intellectual.

An interesting case illustrative of the importance of an understanding of the subject, may be found in the case of the State of Missouri vs. Benj. F. Cronenbold, for murder in the first degree, in 1874, which came under my personal observation. (Reported at length in the April, 1875, No. of the *Amer. Jour. of Insanity.*) In that case the court showed an exceptional appreciation of the value of medical testimony, referring the question of the prisoner's mental status to a commission of five physicians—a *commissio de lunatico inquirendo*—as it is legally called.

1. Jurisp., Insane, p. 130.

I made the young man eighteen lengthy visits, conversing with and observing him the best I could, and have seen no case in all my experience exacting more reflection in order to reach a conclusion satisfactory to myself than this, except, possibly, a recent one involving the question of aphasia or aphasic insanity, a reprint of which, from the *American Journal of Insanity* for January, I lay before you. Cronenbold is now in the State Asylum at Fulton, Mo., the proper life abode for all such persons. His case never came to trial.

In this case the majesty of the law, for which our legal friends are always so clamorous, when on the side of the prosecution, has been vindicated. Even handed justice, balancing in her scales the weak mind against the letter of the law, sees them equipoised and is satisfied, society is secure from an unsafe member, and mercy drops a tear over the page, which, but for the restraining hand of science, had now become the bloody record of legal vengeance upon a victim innocent, because maimed in mind and irresponsible. Procedures like that in the case of Cronenbold, I fear are not likely to be made precedents, for the imbecile receives but little commiseration in criminal courts. Weakness of mind is not recognized by the strong minded who wear the robes of law or by the public in general as much of an excuse for crime.

Respecting the imbecile truer words than these were never spoken. They were uttered by that Corypheas in forensic psychiatry, whom the profession delights to honor and to whom I have before referred — Dr. Isaac Ray, in his Medical Jurisprudence of Insanity: "While the public feeling has become too refined to tolerate the infliction of blows and stripes on the imbecile and the mad in institutions where they are confined, and is inclined to discountenance altogether the idea of punishment as applied to the insane, it can still be gratified by gazing on the dying agonies of a being unable to comprehend between his crime and the penalties attached to it, and utterly insensible to the nature of his awful situation. The voice of reason and humanity which speaks successfully in the first instance, is, in the last, drowned by the more imperious tones of prejudice and passion."

ARTICLE XIII.

COMPARATIVE PATHOLOGY OF CHOLERA, YELLOW FEVER AND MALIGNANT FEVER, OR PERNICIOUS MALARIAL FEVER.

By JOHN J. CALDWELL, M. D., of Baltimore, Md.

Dr. Stillé, in his late learned lecture on epidemic or malignant cholera, says the only diseases which malignant cholera resembles, are the sporadic form of cholera, serious diarrhœa and poising by certain irritant substances, and illustrates its anatomical pathology by referring first to the blood. As a general rule the arteries are nearly empty; they sometimes, however, contain a small quantity of black and viscid blood. The veins and the right side of the heart are filled with the dark blood, which is, in general, very imperfectly coagulated, and often fluid. Even when clots are formed they are for the most part soft and resemble blackberry jelly. The veins of the brain are usually gorged with liquid and black blood, and the same is true of the veins of the small intestines; the red globules themselves undergo important changes, they have lost their watery constituents and become shriveled and irregular in shape, and may even be completely disintegrated.

Niemeyer, in his article on cholera Asiatica, makes the same statement. The leading authors of the present day hold the the same views. On opening the abdominal cavity, the peritoneal coat of the intestine presents a pink or rose tint; sometimes the color is very dark, the venous trunk being full of pitchy blood; the contents of the intestinal canal vary somewhat in its different portions.

The mucous membranes of the stomach seldom present any organic changes. In the large intestine are found the same changes of color and consistence of the mucous and sub-mucous membranes, as at the upper portion of the intestinal canal, but with less frequency. Neither the spleen nor liver present any special alteration. The gall bladder is generally distended with glairy bile. The kidneys are often congested and the calices contain a large quantity of epithelial scales, which give the urine a turbid appearance in the bladder.

That its primary cause is material and acts upon the gastro-intestinal mucous membrane and upon the organic nervous system, we cannot doubt. Unlike other epidemics, such as yellow fever, malignant malarial fever and typhus, we find no alteration of the blood that will throw light upon the succession of symptoms. These, on the contrary, point to the gastro-intestinal canal as the material starting point of the morbid processes which develop cholera. Niemeyer says almost the same in the following words: "The comparison of the intestine in cholera to a portion of the skin from which the epidermis has been removed by boiling water or blister is very correct." Watson says: "The alimentary canal was found to contain a white liquid, such as had previously issued from the bowels. The veins were loaded with thick, black blood, and the bladder was found empty and contracted."

WHAT IS THE REMOTE CAUSE OF CHOLERA?—Stillé says: "Evidently something received from without and swallowed." One opinion is that it consists of certain microsopic fungi, or their germs, which, on being received into the bowels, propagate their kind and destroy the epithelium. It is believed by some that the fungus takes its rise on the banks of the Ganges, and that it is produced upon the rice plant; this we will endeavor to demonstrate by analogy with the history of other fungi, and show in this instance what the learned author says, that here these fungi demonstrate themselves especially upon the gastro-intestinal canal, the material starting point of Asiatic cholera, thus causing the profuse flow of serous and watery portions of the blood into the bowels, the vomiting, the purging, the prostration, and the waste in a few hours of the fullest, finest form; the chills and pallor of the extremities and trunk, so thickening the blood as to arrest its passage and spread its cyanotic shadow over the whole surface of the body, thus paralyzing the heart and the organic nervous system, kidneys and other secreting organs of the body. Thus this chain of pathology is the cause of death, so graphically described by this author.

Now, to demonstrate this parasitic theory, we will endeavor to show that they seem to have the power of electing different membranes or organs as their point of attack; for instance, in cerebro-spinal meningitis we find the arachnoid sadly implicated, in malignant malarial fever we find the following demonstra-

tions, so ably exhibited by Professor Joseph Jones, of New Orleans.

Skin jaundiced, but much less than in yellow fever; head blood-vessels congested; heart normal; lungs congested, but otherwise normal; stomach contracted, containing a small quantity of mucus colored by bile; intestines normal in appearance; liver upon the exterior, slate colored, when cut, bronze within; the blood issuing from the cut liver remained of a dark, purplish hue, and did not change to a brilliant scarlet, as in yellow fever.

Gall bladder: the bile is more abundant in malarial fever, and of a deeper color than in yellow fever; spleen enlarged and softened, it resembles a bag filled with mud; kidneys normal; bladder distended, with reddish-brown urine, of acid reaction; here we find the lesion in the spleen and gall bladder, principally, the spleen being utterly disorganized, and the gall bladder containing more than 1000 grs. of bile, having a high specific gravity, viz., 1036. Under the microscope the granular concretions in the bile were found to be composed chiefly of epithelial cells from the mucous membrane of the gall bladder, cells from the biliary ducts, and casts of the biliary tubes; under the microscope the splenic mud proved to be a mass of pigmentary matter.

How different in yellow fever. Here the form is full and bloated; skin golden yellow; black vomit running from the corners of the mouth; putrefactive changes rapid; heart, pericardium greatly congested, pale yellow, and as if undergoing fatty degeneration; numerous oil globules deposited within the muscular fibrilla of the heart; the blood contains urea, bile and carbonate of ammonia in abnormal quantity. When a drop of blood is allowed to fall upon a piece of white paper the center remains bright red, while its edge is of a bright golden color. Urea and bile are found in all the secreting organs of the body, the fibrin of the blood almost entirely destroyed, the bile having the effect of dissolving the colored corpuscles.

Stomach: mucous membrane congested, soft and eroded, and strongly alkaline, containing large quantities of dark grumous blood, or black vomit, also strongly alkaline; chemical analysis also revealed ammonia and urea; under the microscope this black vomit was found to consist of blood corpuscles, broken capillaries and cells of the mucous membrane of the stomach.

Intestines dark color and distended with gas; liver yellow,

resembling fatty degeneration; under the microscope its texture is found infiltrated with oil. Its cells were large and swollen and filled with a golden colored oil. Chemical analysis revealed fat in abnormal quantities, also urea, animal starch and grape sugar.

The liver of yellow fever, as far as observation extends, according to Stillé, Wood, Lewis and many others, is of a bright golden color, which could be extracted by both water and alcohol.

The yellow fever liver is firmer and harder than malarial liver and contains much less blood; much less readily acted upon by alkalies and acids.

Rogers says the distinguishing characteristic of cholera is the reversal of the action of the mucous surfaces of the stomach and intestines. The normal action of those surfaces is to take up the fluid contents of those organs and convey the same on their way to the systemic circulating current in the blood vessels. In this disease this normal process (termed endosmosis) gives place to a reverse current in which the watery element of the blood passes with greater or less rapidity into those cavities. This element constitutes the so-called rice-water evacuations.

These transudations into the stomach and intestinal canal in their profuseness and painlessness, can by no possibility occur, except that the nerves, whose office it is to preside over the parts implicated, fail to perform their functions in a normal manner. No fluid, however attenuated, can make its way through the walls of the blood vessels while the latter preserve their integrity. Thus the unlocking of the exhalent orifices of the blood vessels, permitting the rapid filtration into the stomach and intestinal canal of the finer elements of the blood, and sometimes of the blood itself, is a positive evidence of perturbation in the action of the nerves which supply the vessels and membranes through which the infiltration takes place.

The cramps arise from purely nervous causes; the vomiting is simply regurgitative; collapse may occur from the initial force of the disease, although most frequently due to the diminished volume of the vital current. In rapidly fatal cases the disease expends itself wholly upon the brain and nervous system, and death occurs before other organic changes can have taken place. After death no constant and uniform changes are found in the fluids or tissues of the body which can be regarded as the cause, or the products of the disease.

We may, therefore, consistently ignore all previous theories, and discard all forms of treatment which have been so fruitless in results, and seek some other philosophy which shall better account for the conditions observed, and some other treatment which may prove more successful.

In viewing this disease from a neurological standpoint, the treatment emerges from the empiricism which has ever characterized it and becomes thoroughly scientific. It also becomes the perfection of simplicity.

In the treatment of this disease there are two great and leading indications to be observed. First, to change the perturbed condition of the nervous system, and thus shut down the floodgates through which the life ebbs away, and second, to ward off the effects of the exhaustive drain upon the vital current. The first may be accomplished by the hypodermic injections of morphia, and the second by position.

It cannot be too firmly impressed upon the professional mind that the rapid diminution of the volume of the blood, through exudation, is attended by the same results which follow a true active hemorrhage. From the commencement of this disease this exudation is in progress in a manifest or a concealed form, and with greater or less rapidity, and demands the precautions and treatment due to active hemorrhage.

In the hypodermic form of medication there is certainty of retention of the remedies employed and promptness and efficiency in their action, a very marked contrast with all other forms of treatment which have ever been employed. The commendation of this method by those who have employed it, is expressed in the strongest terms. The reports of cases thus treated in Asia, Europe, Australia and in various portions of our own country, show almost uniformly favorable results.

The following treatment was employed with successful results in my latest cases—twelve in number—the most of which were grave and typical:

1st. The hypodermic use of morphia, administered according to the age and condition of the patient, usually in quantity of one-eighth to one-quarter of a grain, and frequently repeated.

2d. The horizontal position, or with the head lower than the body.

3d. For the mouth, nothing but ice, and that *ad libitum*.

When this cannot be obtained, the coldest water may be given, and frequently repeated, in small quantities.

4th. External heat, frictions, etc.

The following case, as illustrating the above treatment, may be deemed apropos: Mr. T—— was seized at midnight, and at early morning was found to be on the verge of collapse. In his condition of almost complete exhaustion, with pulse almost imperceptible, the use of morphia was contra-indicated. The first duty, therefore, was to stimulate the brain and heart to action by sending to those organs a current of blood by gravitation. The head was quickly placed many inches lower than the body and extremities, and the other measures resorted to. At the end of one hour the pulse had perceptibly improved, and a quarter of a grain of morphia was hypodermically administered. The inclined position was continued several hours. The result was favorable.

The same treatment applied to cholera morbus is also prompt and favorable in its results.

Dr. Blair (Yellow Fever Epidemic of British Guiana) considers that the most valuable premonitory symptoms of yellow fever are supra-orbital pain and a punctated tongue; the first especially giving notice of an impending attack several days before it occurs.

The alternation of chillings and heat is seldom of any duration. It soon gives way to confirmed fever, which, though continued, is more intense in the latter part of the day and during the night than during the other portion of the twenty-four hours. In the more malignant forms of the disease there may occur but a slight reaction, or it may be entirely wanting; the pulse being feeble, soft, occasionally full, or scarcely to be felt—the patient sinking at once into a state of collapse, or of stupor, coma and convulsions.

When febrile reaction becomes fully developed the pulse is generally quick and tense, and during the exacerbation full and strong, though occasionally soft, and from 90 to 120 in a minute. In very malignant cases it is gaseous. There is a violent throbbing and beating of the temporal arteries and carotids.

A specific capillary irritation that shows itself in the flush of the face, and which he pronounces to be as characteristic of yellow fever, as the hectic is of phthisis, or the fuliginous complexion of typhus. "Thus, suffusion," he remarks, "generally occu-

pies a zone over the eyes and about an inch above and below them. The eyes are injected, like those of a person just awake, but generally without any lachrymation or photophobia, although the injection may be as intense as in ophthalmia.

On the first or second day of the attack, sooner or later, the patient experiences a burning pain or a sense of stricture, weight, distension or oppression, sometimes overwhelming, at the præcordia, which feels as if tightly bound with a cord. Tenderness or pain is experienced on pressure in most cases—it is often excessive. The irritability of the stomach augments and proves distressing; everything swallowed is rejected, and even when the stomach is undisturbed by drink or medicine, its morbid contents are thrown off spontaneously, consisting either of substances that have been swallowed, mixed with clear, glairy mucus, or with matter of a sea-green color and bitter taste. In mild cases bilious vomiting sometimes occurs. The act of vomiting is often violent, and attended with retching and much distress and suffering. There is, at the same time, considerable, though not often insatiable, thirst. The desire for cold drinks is nevertheless generally extreme.

The urine is commonly deficient in quantity, and of a dark red color; often depositing a copious sediment. It is always acid in the first stage of yellow fever, and as continuing so, generally until convalescence, when it becomes alkaline, or until it becomes heavily charged with bile. He confirms the accuracy of Dr. Colling's observations in regard to albuminosity of urine as a characteristic of the disease. The albumen generally appears on the second or third day; it has been found as early as the first day of illness, while, in a few cases, it did not appear till the day of death, and after black vomit had set in.

A copious discharge of transparent urine, though ever so coagulable and intensely tinged with bile, is always a favorable symptom. Scanty, oily-looking urine may almost invariably be received as a fatal indication.

The bowels are ordinarily costive, sometimes obstinately so. When stools are obtained, the discharges are at first usually soft and feculent, seldom tinged with bile; occasionally they are of a drab color. When cathartics have not been given, the stools, in the course of the disease, become lighter colored and often assume a starchy, cream-like or puruloid appearance. In a few cases they are watery or even bloody from the beginning of the attack.

The patient is affected with extreme restlessness and jactitation; he moans, sighs and shifts his position continually in search of ease. In the very few cases in which jactitation is absent the patient sometimes feels a disposition to rise from his bed and walk about the room, his muscular strength remaining unimpaired to a degree unusual in febrile diseases. There is nevertheless in numerous instances, from the onset of the disease and during its entire course, universal debility.

In very many cases the patient complains of feeling as though he were unable to expand his chest or inflate his lungs; spasmodic pains about the chest are not unfrequent; respiration, in some cases, is laborious and hurried—in others, slow and accompanied with deep and heavy sighing—in others, again, it is unaffected.

From the above observations it is shown that the breath of yellow fever patients, especially in cases in which the urine is greatly diminished or suppressed, has an ammoniacal odor—the more intense in proportion to the deficiency of the action of the kidneys.

Dr. Blair describes four distinct causes of death in yellow fever. They may, however, be blended occasionally in the same case. They are syncope, uræmia, apoplexy and asphyxia. Death from syncope may be owing to excessive discharges of black vomit, or from hemorrhage, as profuse epistaxis or bleeding from the mouth and gums, or from the black vomit and hemorrhage combined. If before death there is entire suppression of urine, and the black vomit is not copious or has ceased, the circulation becomes contaminated, and in its mildest form the action of the impure blood upon the brain produces an effect not unlike alcoholic inebriation. Patients, a few hours preceding death, have been known to sit up in bed and joke with their comrades, or in a chair regaling themselves with a pipe of tobacco. When all the secretions and excretions are locked up, as occasionally happens, the symptoms of uræmic poisoning are of a more violent character; the sensorium is painfully affected—irritability of temper, screams and wild ravings ensue, followed by convulsions, coma and death.

Various morbid appearances of the ganglia and ganglionic nerves have been described as occasionally met with after yellow fever. No one of these are invariably present—all of them are frequently absent; they often exist in subjects who have died of diseases having not the least resemblance to yellow fever; hence,

when present, they are not to be viewed as among the true anatomical character of the latter.

The glands of the intestines, especially those of Brunner, are occasionally found in a diseased or abnormal condition. The gall-bladder is either empty, diminished in size—withered, as it were—or distended, with its usual amount of bile more or less natural in quality, or its contents may be small in quantity, viscid, inspissated, or mixed with more mucus than common. It is either dark green, blackish brown, or of an obscure red color, and of the consistence of tar. Not unfrequently the gall-bladder contains a quantity of thick viscous blood, grumous, tar-like, or ink colored, or of serum, and more rarely of pus. Its internal membrane is often spotted, or punctated, and sometimes largely injected with blood of a bright or obscure red or brown, or even dark color. It is said often to present traces of unequivocal inflammation.

The liver is usually of a light yellow, nankeen, fresh butter, straw, coffee and milk, gum yellow, buff, gamboge, light orange, or pistachio color. In some cases this discoloration occupies the whole surface, and pervades the entire parenchyma of the organ; while again, in others, it extends only partially over both, giving a marbled appearance, presenting throughout patches or regular striæ, and alternating with others of a dark green color. It is limited occasionally to a single lobe, usually the left. Recent observations would seem to show that this discoloration is due to a fatty degeneration of the organ.

"Frequently, however, as this peculiar coloration of the liver has been observed, it is far from being universally so; cases occurring in which the organ is found of a different hue—dark yellow, brown, red, purple, bluish, slate, chocolate or livid. It has been described as of a brick color, and compared to rhubarb or to Peruvian bark. In other cases, again, it retains its natural appearance externally and internally, and is otherwise healthy. The parenchyma, when divided, is often found hard, dry, tough, and sometimes dry and brittle, and more or less devoid of blood; while, in some cases, the viscus is more or less gorged with blood, and softer in texture than natural. In some cases the biliary pores contain bile, but more frequently there is no indication of biliary secretion."

ARTICLE XIV.

THERAPEUTIC ACTION OF THE CINCHONA ALKALOIDS. By J. T. McCOLGAN, M. D., of Celina, Tenn.

There are at the present time but few practicing physicians who, if asked the therapeutic properties of quinine and its kindred cinchona alkaloids, would unhesitatingly reply, "Tonic and antiperiodic." Further than this few men care to pursue any investigation; satisfied with the beneficial results obtained from it in the "so-called" periodic diseases, they are willing to be thankful for such marvelous success, and like honest Sancho, "bid God bless the giver, nor look the gift-horse in the mouth." Now we do not propose to instruct the profession at large on this or any other subject, for we are not so egotistic as to believe ourself competent for such a task, but wish to offer a few suggestions, based upon a long experience with these articles, which may be of some interest, though containing nothing new, but simply practical application of well known facts and principles.

We first beg leave to state that periodicity is not an essential element of disease, nor is it even a pathologic condition, but simply a normal physiological manifestation, attendant to a greater or less extent upon almost every "ill that flesh is heir to," and by no means confined to malarial diseases, for which these alkaloids are justly denominated the Sampson remedy. All diseases which exert a depressing effect upon the nervous centers are more or less marked by periodicity, or we might more appropriately say that periodicity is the vibration produced by any jar of the great nervous system, for we find it in the manifestations from traumatic injuries, as well as in disease. We should remember that when the system suffers any injury, whether from natural or from traumatic causes, whether from an over-supply of deleterious food, or a blow from a stick, nature makes an herculean effort to rid herself of the grievance, and repair the injury done, nor does she cease that effort until she exhausts all the powers at her disposal; when that is done she ceases, in order to recuperate for another struggle. This is done under well-known physiological laws. No bodily function will bear continuous ex-

ertion without its periodic rest; contraction must be followed by relaxation, or disintegration is the result; even the heart, which carries on its unceasing action, has its period of rest between every beat; digestion has its periodic stages. We can not support life if we force into the stomach a continuous supply of food, although we do not exceed the quantity required; that organ must have its period of rest, which, if denied, will revolt at what you offer, and cease its work altogether. Periodicity is a law of nature, all-pervading and inexorable, and if disease shows its manifestations more markedly at certain periods than at others, it is in obedience to this great physiological law, and not a pathologic condition of the disease in question.

We have heard men speak gravely of a malarial diathesis which predisposes all diseases in malarial regions to assume a periodic type, but such logic is too puerile to be of any weight, for you must first take for granted the very fact that they are attempting to prove, viz., that periodicity is a peculiar pathologic characteristic of these diseases. Now 'tis true that the periodic manifestation is more observable in these disorders because of the rapidity and severity in which the paroxysms occur, but not more markedly than in epilepsy, hysteria and many other diseases, and we find these periodic manifestations in regions where malaria does not, and cannot exist, and so with the periodic pain in cancer, gout, rheumatism, wounds and injuries; it is as well marked in Northern latitudes as it is in the more temperate zones.

Let us now briefly look at some of the uses of quinine. It is a fact well known to every observer that quinine exerts a wonderful influence over congestion, no matter where situated or how produced, relieving it sooner and more effectually than any other means at our disposal. It is also affirmed, and to the truth of which we bear witness, that it controls hemorrhage to a great extent. Certain forms of dysentery yield to its influence. In suppressed menstrual discharges it is as potent as it is in ague, and as an oxytocic is superior to ergot. Does it fulfill all these indications as a tonic and antiperiodic? It would be rather vague to say that antiperiodic medicine is needed to produce uterine contraction during parturition, and a tonic under those circumstances would be wonderfully slow. That a tonic and antiperiodic would produce hyperæmia of the uterus and promote the menstrual flow, and the same agent check a hemorrhage from

the same organ—one is a normal periodic function, the other is a morbid condition, apparently the exact antithesis of the other; but as it does these things, there must be some good reason for its doing so, and this is the explanation we have to offer. Quinine and its kindred, cinchona alkaloids, are simply *nervous stimulants*, exerting a special stimulant effect on the *vaso-motor nerves*, and thereby equalizing and maintaining that balance in the circulation which is necessary to the normal working of the animal machine.

Now we are all aware that congestion is dependent on a semi-paralytic condition of the muscular coats of the vessels of the part congested, caused by a want of nerve stimuli (see Brown-Sequard and Claude Bernard's experiments), and we further know that where there is too much blood in any given part, it is at the expense of some other; or there is a corresponding deficiency of blood somewhere in the circulation, when there is hyperæmia in any particular part, and in order to relieve this, we must stimulate the vaso-motor nerves to action, and when we do so, the distended vessels contract, the balance of circulation is restored, and harmony is the result. Hemorrhage is dependent on local hyperæmia, and the beneficial effects of quinine in controlling hemorrhage is due, we think, to its stimulating effects on the vaso-motor nerve centers. In confirmation of this view, we would call attention to the following facts: When from the exposure to sudden cold the menstrua is arrested, there is nothing that will so speedily restore the function as decided doses of quinine, and when from a lax condition of the uterine vessels menorrhagia occurs we find quinine just as potent in its arrest. Now in both these conditions we have the same thing inversely in sudden suppression of the menstrua; there is not sufficient blood sent to the uterus to enable it to perform this function, and consequently there must be hyperæmia elsewhere, and the vaso-motor stimulating properties of the quinine causes a more equal distribution by contracting the distended arteries where the local hyperæmia exists. In menorrhagia you have the local hyperæmia in the uterus itself, and it is stopped by the same means.

During any stage of pregnancy you may give quinine to any reasonable degree of cinchonism without disturbing the uterus in the least, and we have known cases of threatened abortion checked promptly and efficiently when opium utterly failed to relieve the pains; and we have, during parturition, produced

uterine contractions with the same drug, where ergot was as impotent as water. Now this is the way in which we account for these seeming inconsistencies. In the first case quinine has a specific stimulating effect over the whole vaso-motor system, and a general contraction of the whole arterial system alike, would not affect the normal status of the gravid uterus. In those cases of threatened abortion the cause was evidently a hyperæmic condition of the uterus, and the quinine relieved what the opium could not. The beneficial effects of quinine in parturition is not dependent on any specific action it has over the contraction of the uterus, but is best observed in those lingering cases of labor, where the patient has pains more of a neuralgic character than true contraction, when contraction commencing creates a reflex action, which from its severity cuts short the contraction, and in those cases of lingering labor where the powers are exhausted, and is due to keeping equalized the sympathetic system and preventing reflex nervous action, thereby allowing labor to proceed naturally.

To account for the beneficial effects of quinine in diarrhœa, we must only call to mind the fact that partial hyperæmia in a gland produces increased functional activity, and in those cases where it is beneficial there is enteric hyperæmia, and they are checked, not by a tonic or astringent effect of the quinine, but by its stimulating properties on enteric vessels, equalizing the circulation and diminishing congestion.

As to its therapeutic effect in malarial diseases, we may reiterate what we have already stated. In all malarial diseases there is a great want of balance in the circulation; congestion is one of its marked characteristics, and while the limits of this article do not admit of a discussion of the pathology of these diseases, we will state that our experience leads us to the conclusion that they are not dependent on any specific *blood poison*, and the primary lesion must be looked for in the great sympathetic ganglia, and the alteration of the blood observed in these diseases is rather from a want of nerve influence in perfecting natural changes, than the effect of any so-called poison. Whatever produces this functional derangement of the nerve centers, there is no better means of remedying it, than sending to the brain a normal quantity of oxygenized blood, and quinine, by its stimulating effects on the vaso-motor system, regulates this supply by restoring the equilibrium of the circulation.

So far as regards the tonic properties of quinine, if we properly understand what is meant by a tonic, we have utterly failed to find that it has any. Its influence is as evanescent as it is potent, but as an adjunct to tonics, it is highly beneficial. As the carpenter uses a clamp to hold his boards together until he fastens them permanently with nails or screws, so do we use quinine. It holds the system temporarily in shape, and gives us a chance to permanently tighten all the loose screws.

All that we have said in regard to quinia holds good with all the cinchona alkaloids; they each and all possess this property of stimulating the vaso-motor system, and the results obtained from them are in proportion to their solubility in the juices of the stomach. These remedies require to go into the circulation by endosmosis, and are only completely soluble in an acid, and if they pass into the duodenum they meet with alkaline secretions which render them more insoluble, and consequently inert. By using acid drinks during their administration (and we prefer buttermilk to all others), there is scarcely any appreciable difference in their effects. We have had as rapid and perfect results with the tasteless cinchona alkaloid by using buttermilk with it, as we ever had from quinine, and we have seen cases where quinine failed to act when given alone, brought promptly under its influence by using acidulous drinks. We have further found that, as a matter of economy, it is well to use them all together. Cinchonidia, sulphate of cinchona and quinia intimately mixed, will produce better results and require smaller doses than either of them alone.

This, from our experience, is the whole therapeutical property of these remedies, and when we reflect on the amount of paresis of the sympathetic centers there is in almost all diseases, if we are correct in our conclusions, it opens a wider field for the usefulness of these preparations which will enable them to confer an incalculable benefit to mankind.

Article XIV.

The Hypodermic Syringe in the Treatment of Epididymitis.*

By Z. C. McElroy, M. D., of Zanesville, O.; Physician to City Infirmary; Fellow of the Zanesville Academy of Medicine; Member of the Licking and Perry County Medical Societies, etc.

Simple inflammation of the testes, or testitis, as it was named by Sir Astley Cooper, as it has fallen under my professional notice, has been almost invariably the sequel, or one of the results, of gonorrhœa or gonorrhœal inflammation of the urethra. Instances where sufferers have denied a gentle insinuation of gonorrhœal origin have not been wanting, but, while giving seeming credence to their denials, the right to differ with them has never been surrendered.

As it has come under my notice the pathological condition has been mainly confined to the epididymus, or at least was so regarded by me; but of course other textures of this complex gland were more or less involved.

Up to a comparatively recent period the remedial management pursued on my part never yielded results very satisfactory either to myself or patients. And I think I used quite energetically what are known as the orthodox antiphlogistic remedies, including mechanical support of the enlarged and painful organ.

Some years since I found myself confronted with a case in the person of a gentleman with a young and very interesting family around him. The cause he did not attempt to conceal from me. He had made to his better half, who was very devoted and kind in her attentions, an explanation which satisfied her, which after examination on my part, I confirmed. His business urgently demanded his personal attention. He complained of great pain, from which, by no device, could he get a moment's respite. He looked to me for speedy relief, but I could only look grave and promise to do my very best for him.

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* From the proceedings of the Zanesville Academy of Medicine, July, 1879.

Having on previous occasions used the hypodermic syringe very successfully for other purposes, never for this, I decided to inject all that I thought he would bear of a solution of sulphate of morphia, one grain to a drachm of water, viz., minims, xxxv, measured by the markings on the syringe (a small instrument, made in Vienna), which was injected beneath the skin of the scrotum. As this was after dark, and the patient in bed, I gave some directions as to mechanical support, and prescribed a half grain calomel granule every four hours, and returned home.

On the following morning I was agreeably surprised to find my patient had passed a most comfortable night; had no pain, and the swelling was much reduced, and the tenderness almost gone. In the evening the injection was repeated, and at my visit the next morning I was again surprised to find my patient had had his breakfast and gone to his place of business before my arrival. And that substantially ended my case, so far as the testes were concerned.

Such are the facts of my first use of the hypodermic syringe in this form of sickness.

Last week a gentleman, with a family, again, came under my care, having had a gonorrhœa six months ago, from which he had never fully recovered, though under treatment all the time, and had lost a great deal of time in consequence of the condition of his testes, or rather one of them. The right testis was found, on examination, to be fully three times the size of its left fellow, very red, and tender, and quite painful. This condition had come on quite suddenly, as it had done several times before. I injected into the scrotum a similar solution, but using only m. xxv. In twenty-four hours all pain, swelling and soreness had disappeared, and the patient had at first thought when he came to examine for the testis, that it had gone too, but it was ultimately found closely drawn up to the external inguinal ring. A suspensory bandage, which he had constructed himself, was worn all the time for months, and is yet worn, but he is at work, and under treatment yet for a gleet.

And between these two, one first, the other the last, similar satisfactory results have followed the hypodermic injections in each case coming under my care. And, as will be seen, the remedial management, from having been extremely unsatisfactory, has become a simple certainty in my hands. It is proper to say that constitutional treatment, mainly in aid of constructive metamor-

phosis, has, in every case, been enforced, with no relapses, and a speedy termination of each case.

Please remember, too, that no other class of cases of testitis have been thus treated, except those of urethral origin.

Reports on the Recent Progress of Medicine.

PHYSIOLOGY.

By I. N. LOVE, M. D., Collaborator for the JOURNAL.

ON THE INFLUENCE OF CARBONIC ACID DRINKS ON THE URINARY SECRETION. (Quincke, per J. G. Brown, *Jour. Anat. and Phys.* Jan. 1879.)—Observations were made on several individuals to whom were administered large quantities of water containing carbonic acid, and who on other days drank ordinary water. The urine passed in the three hours which followed the draughts were compared in each instance, and it was found that that which succeeded the effervescing drinks was always greater in amount than the urine which followed the drinking of ordinary water. He holds that this result cannot proceed from the carbonic acid as such, but is rather the effect of the increased rapidity of the absorption of water in the stomach and intestines. The effect is not observed if an effervescing powder dissolved in only a little water be swallowed. The well known rapid effect of sparkling wines he also refers to the increased rapidity of absorption produced by the carbonic acid they contain. In experiments on dogs the drinking of carbonic acid waters caused no change in blood pressure, and influenced the pulse frequency only very slightly. The respirations were deep and slow. [Considering the physiological action of carbonic acid drinks, we can realize the importance of their liberal use in many forms of disease. No two more valuable agents can be found than the common Seltzer water as a refreshing drink and Koumis as a soothing and palatable nourishment. They are grateful to the stomach, rapidly absorbed, and stimulate the secretions.]

FUNCTION OF THE EPIGLOTTIS IN DEGLUTITION AND PHONATION. (*Jour. Physiology*, Sept. 1878.)—Experiments by G. L. Walton, of the Harvard Medical School, under the direction of Dr. H. P. Bowditch, upon dogs and cats, consisting of complete removal of the epiglottis, proved that it could be done without solids or liquids entering the larynx in the act of deglutition. In three of the animals operated on, two dogs and one cat, the excision was absolutely complete, and no choking in deglutition followed. In the other three cases the valvular portion was removed with a similar result.

Consideration of pathological cases reported by Larrey, Merklin and Bonnet follow, cases wherein the epiglottis was removed by musket ball and ulcerative processes and accompanied by difficulty in swallowing liquids, etc. This result is explained upon the ground that the injury extended beyond the epiglottis and he attributes the difficulty in these cases to pathological alterations of the true organs of deglutition, rather than to destruction of the epiglottis.

The experimenter fully demonstrates as follows:

1st. That the epiglottis can be removed from dogs and cats without interfering with deglutition.

2d. That the cases commonly quoted to prove the connection between the epiglottis and the deglutition of liquids prove nothing; not a single case having been found after a careful search through the reports of laryngoscopic observers, in which the lesion is shown to be limited to the epiglottis, and liquids are reported as causing a cough on deglutition.

3d. That there are many cases in which loss of the epiglottis has not been followed by difficulty in swallowing liquids.

4th. That in failure of the glottis to close, the epiglottis, if uninjured, is able to protect the larynx, but in the normal condition the presence of the epiglottis is not essential to perfect deglutition, and is therefore only an additional safeguard. [Dr. Wm. Porter, of St. Louis, Mo., in the *Amer. Journ. of Med. Sciences* for April, 1879, reports the removal of an ecchondrose involving the epiglottis. At no time after was deglutition more difficult than just previous to the operation, and six weeks later there was little or no functional disturbance. The doctor concludes: "If a benign growth of the epiglottis exist, or there is malignant disease which has not as yet implicated the surrounding parts,

removal of the epiglottis, or such a part of it as is involved, is practicable and justifiable."]

The Epiglottis in Phonation.—Walton further proves by the aid of a professional singer, examined and studied under the laryngoscope, and of experiments on the voice artificially produced in the dead larynx, that the epiglottis takes different positions during vocalization, in changes of pitch, quality and intensity, and altogether plays an important part in the formation and modification of the voice.

This organ has generally been described by physiologists as a cartilage placed as a valve at the entrance of the larynx to keep food, especially liquid food, out of the respiratory passages, and it has attracted but little attention in its relations to phonation. The facts, however, elicited by these experiments, "point decidedly to the uselessness of the epiglottis in deglutition and the necessity for some such organ to the perfect modification of the voice."

ON THE ACTION OF HUMAN INTESTINAL JUICE. (A review of Domant by J. Graham Brown, M. D., *Jour. Anat. and Physiology*, April, 1879.)—The author had an opportunity of making observations on intestinal juice in a patient in whom herniotomy had left a complete fistula at the lower end of the small intestine, so that the intestinal tract was divided into two parts, completely separated from one another, in the lower of which pure intestinal juice collected. With the secretion so obtained he performed a number of experiments to ascertain its power of digestion. The results of these are briefly as follows:

1st. Human intestinal juice is a thin, clear fluid of strongly alkaline reaction.

2d. The amount secreted is not large. During the act of digestion more is secreted than at other times. During the night there is almost no secretion at all. Purgatives (Carlsbad salts) exercise no influence on its quantity, composition or power of digestion.

3d. It contains no peptic (albumen digesting) ferment, and it is quite indifferent to all protean bodies.

4th. It changes starch into grape sugar.

5th. Cane sugar is transformed into grape sugar.

6th. Fats which contain free fatty acids are emulsioned by intestinal juice, but neutral fats are not. [These experiments of

Demant are very valuable in their results, the knowledge obtained of the human intestinal juice being more definite than by any previous observers. According to the experiments of Thiry and Funcke upon rabbits, starch was not converted into sugar. M. Foster in his work on Physiology gives this unsatisfactory statement regarding the intestinal juice: "We have no exact knowledge as to what extent the secretion takes place under normal circumstances, and the statements regarding its action are conflicting. Thus it has been said to act on starch, to convert proteids into peptone and to emulsify fats. On the other hand, each of these actions has been denied." Experimentation upon cases like this and Alexis St. Martin by such shrewd observers as Beaumont and Demant are more valuable to real physiological investigation than all the experiments in the world upon the rabbit, dog, etc.]

EXPERIMENTS AND REFLECTIONS UPON ANIMAL HEAT. (By Austin Flint, Jr., M. D., *Amer. Journ. Med. Sciences*, April, 1879.)—In this very interesting paper the author discusses the estimated heat value of certain articles of food, and experiments made with reference to the heat units actually produced by the body.

He then gives an account of observations made upon his own person, in which he endeavored to ascertain something definite with regard to the relations between the heat estimated as produced by the body, the loss of weight of the body during one day's abstinence from food, and the estimated heat value of a carefully weighed quantity of food taken during one day.

Taking his experiments and connecting them with what had previously been ascertained with regard to the questions under consideration, he feels justified in concluding:

1st. It is probable, and, indeed, almost certain, that nearly all the animal heat is produced by oxidation, in the body, of certain elements, which are chiefly nitrogen, carbon and hydrogen.

2d. It is probable that this oxidation does not take place entirely in the blood, but that its seat is in the substance of the various tissues, and that it is connected with the general processes of nutrition and disassimilation. Heat is thus evolved and the final products of the chemical actions involved are mainly urea, carbonic acid and water. It must be remembered, however, that the oxidation is not necessarily a process identical with combustion out of the body, but that it is probably con-

nected with a series of intricate molecular changes which cease with the life of the tissues, and of which we are able to recognize only the final results, viz., calorification and certain chemical products.

3d. Recognizing the products, urea, carbonic acid and water as representing, probably, the evolution of a certain amount of heat, we cannot account for the heat actually produced in the body by the amount represented by the urea and carbonic acid discharged. If we admit that hydrogen is oxidized in the body, resulting in the evolution of heat and the production of water, this will enable us to account for all the heat actually manifested as heat, leaving an excess which may be converted into force.

4th. His experiments show pretty clearly that when no food is taken and when, food being taken, muscular work is performed, so that there is loss of body weight, water is actually produced in the body. This, and this only, enables us to account for all the heat evolved under these conditions. There is no reason to suppose that the processes involved in the production of heat are radically changed in their character when enough food and water are taken to maintain a uniform body weight.

5th. Animal heat is produced mainly by oxidation of the nitrogen, carbon and hydrogen of the tissues, the waste of these elements being supplied by the food. Probably the oxidation of carbon and hydrogen is a more important factor in calorification than the oxidation of nitrogen; at least it is certain that the heat value of the oxidation of carbon and hydrogen is greater than that of nitrogen, and the quantity of heat thus produced is very much greater. Of the two elements, carbon and hydrogen, the oxidation of which produces animal heat, the heat value of the hydrogen is by far the greater.

6th. It is probable that there is always a certain amount of oxidation of hydrogen in the body, and that this is necessary to maintain the animal temperature, and it is almost certain that this occurs during prolonged abstinence from food, and when the production of heat is much increased by violent and protracted muscular exertion. It may be, also, that there is an active and unusual oxidation of hydrogen as well as of carbon in fevers.

The author alludes to the appropriateness of the administration of alcohol in fevers as supplying the demand for carbon and hydrogen, and closes his interesting essay by propounding the

following query, which occurred to his mind in connection with his reflections upon the question of the oxidation of hydrogen as one of the sources of animal heat:

"If the excessive heat produced in essential fevers be due in part to an excessive oxidation of hydrogen, why would not the exhaustion and rapid emaciation which attend the progress of fever be more or less moderated by supplying hydrogen to the system in the form of fatty matters, starchy matters, sugar and alcohol, until the fever has run its course; and might not this supply, to a certain extent, the abnormal waste of tissue?"

ON THE CHANGES PRODUCED IN GLYCOGEN BY SALIVA AND PANCREAS FERMENT. — Seegen, Pflügers Archiv., per J. G. Brown, *Journ. Anat. and Phys.*, concludes:

1st. Glycogen is not entirely changed into sugar by the action of saliva and pancreas extract. When the fermentation is completed, from 60 to 75 per cent is so changed.

2d. The sugar so formed is not grape sugar as it possesses a decidedly small power of reduction, and a much higher specific relation. The former is only 66 per cent of that of grape sugar, and the latter varies from 120° to 130°.

3d. Diastase acts in an analogous manner to saliva and pancreas ferment.

4th. Starch also is not entirely changed into sugar by the action of these ferments, and the sugar so formed likewise possesses the above mentioned characteristics.

5th. Keeping in view the manner of their production and their correspondence as regards power of reduction and relation, the varieties of sugar formed by the action of saliva and pancreatic ferment on glycogen and starch may be called ferment sugar.

6th. By boiling with acids (hydrochloric and sulphuric) only about 75 per cent of the glycogen is changed into grape sugar. A complete transformation of the glycogen takes place when a solution contained in closed tubes is heated to 100° C., for 36 to 48 hours in a water bath.

7th. The sugar formed in the liver is grape sugar.

8th. The second transformation product produced by the action of ferments is dextrin. This appears in two forms: (*a*) *Achroodextrin* at the moment when the opalescence of the glycogen solution disappears. This achroodextrin is precipitated by weak alcohol and by the further action of the ferments it is

changed into sugar. When the fermentation is concluded there remains behind (*b*) a second dextrin, which dissolves with difficulty in 90 per cent alcohol, and which cannot, by further fermentation, pass into sugar. On account of the resistance it offers to acids and to ferments, it may be called *dystropodextrin*.

The Functions of the Organs of the Fœtus in Utero. (Smyly, *Dublin Journ. Med. Sciences*, Sept., 1878.)—Dr. Smyly gives a brief account of the results which have lately been obtained by Gusseron, of Strasbourg, in relation to the functions of the fœtus in utero. He experiments with foreign substances, such as iodide of potassium, ferro-cyanide of potassium, and tincture of iodine, and finds that they pass from the mother to the ovum when the drug has been continuously administered for at least fourteen days. Iodide of potassium was the substance chiefly experimented with, the iodine of which was found in the urine of the fœtus and in the liquor amnii. In thirteen cases out of sixteen, the amniotic fluid was found to contain urea in greater or lesser quantity. Dr. Gusseron concludes from these experiments that the fœtus secretes urine, which is voided after the second month into the liquor amnii.

The urinary matter contained in the liquor amnii does not remain there long, but, as in cases of retention of urine in the fœtal bladder, it probably decomposes and passes into the mother's blood. It is moreover probable that the urine does not flow away continuously, but that it collects in the bladder until a sufficient irritation is conveyed to the spinal cord to cause a reflex action of that viscus, for otherwise the amount of urea found in the liquor amnii would be constant, and not, as is the case, variable in quantity. Gusseron adheres, therefore, to the view that the amniotic fluid is entirely a fœtal production, derived, at least during the second half of pregnancy, from the fœtal kidneys, and is not merely a transudation from the fœtal or maternal vessels, nor is it a result of mechanical œdema, as is shown by its poverty in albumin and white corpuscles, together with its incoagulability, as well as by its being entirely devoid of red corpuscles. He administered benzoic acid to the pregnant mother and he concluded that like certain other substances, it passes in a short space of time from the maternal to the fœtal organism, and further, that it is then converted into hippuric acid, and consequently the fœtal kidneys must have the same function

as after birth, and also that the fœtus micturates into the bag of waters. Finally, if a direct exchange took place between the maternal or even fœtal blood and the liquor amnii, benzoic acid would invariably be found in it, as this alone circulates in both kinds of blood. No benzoic acid, however, was ever found, but generally hippuric. Dr. Gusseron has also confirmed the observations of Mr. Savory in regard to the effect on the mother of poisons injected into the fœtus.

OBSERVATIONS ON A CASE OF GASTRIC FISTULA.—(*Richet comptes rendus.* Dr. J. Graham Brown, *Journ. Anat. and Phys.*, Jan., 1879.)—The case on which these observations were made, was that of a young man on whom gastrotomy had been performed on account of obstruction of the œsophagus. The observations are all the more valuable seeing that the œsophageal obstruction was so absolute that no saliva became mixed with the gastric contents. He draws the following conclusions from his first series of observations: (*a*) The medium acidity of the gastric juice (whether pure or mixed with food) was equivalent to 1.7 grammes of hydrochloric acid in 1000 grams of liquid. It was never lower than 0.5 grams nor higher than 3.2 grams. (*b*) The quantity of liquid contained in the stomach had no influence on the acidity. (*c*) Wine and alcohol augment the acidity of the stomach, cane sugar diminishes it. (*d*) If a quantity of acid or alkaline fluid be thrown into the stomach, the normal acidity becomes rapidly re-established—in the course of an hour or two. (*e*) The gastric juice is more acid during digestion than in the intervals. (*f*) It becomes still more acid towards the end of digestion. (*g*) The sensations of hunger and thirst are not dependent on the amount of acidity, nor on the state of emptiness of the stomach. The gastric juice derives this acidity chiefly from mineral acids, but when food is mixed with it, lactic acid also appears.

SOME POINTS CONNECTED WITH THE PHYSIOLOGICAL ACTION OF PILOCARPINE. (By JOHN SERVICE, M. D., Ass't Prof. Clin. and Med. Univ. of Glasgow., *Jour. Anat. and Phys.*, April, '79.)—The author, in his paper, reports his experiments with pilocarpine, its action upon the secretions and upon the circulation, as demonstrated by the sphygmograph. Tracings were taken from the radial artery of a man recovering from an acute attack of tubular nephritis.

No. 1, taken just before administration of drug, shows considerable tension; pulse, 76.

No. 2, taken three minutes after the injection into the left forearm of one-sixth of a grain of nitrate of pilocarpine (a small dose), shows great reduction in tension and marked dicrotism; pulse, 116. Ten minutes later the full effect was obtained, and at the end of an hour all effect had passed off. If a larger dose had been given the return to the normal state would have been longer in taking place.

Other experiments were made with larger doses and more marked results—increased secretion, increased heart action, diminishment of arterial tension, greater frequency of pulse, and more marked dicrotism. The injection of the one hundredth of a grain of atropia when the system was completely under the influence of the pilocarpine was followed within five minntes by a marked abatement of its effects, and at the end of fifteen minutes the effect of the pilocarpine had entirely disappeared.

Jaborandi was first introduced to the profession in the year 1873–'74, by Dr. S. Continho, of Pernambuco. Its alkaloid, the nitrate of pilocarpine, was isolated by A. W. Gerard, of London, in the beginning of 1875. The latter is much to be preferred, as it can be given hypodermically in minute doses, the jaborandi being intensely nauseating and disagreeable.

The paper of Service is of service, in that the sphygmograms demonstrated that pilocarpine acts by paralyzing the vaso-motor nerves, increasing the heart's action, producing a dicrotic pulse. It is further valuable, in that it shows a marked antagonism between pilocarpine and atropine, the one being a positive antidote to the other. [The writer can bear testimony to the most efficient action of pilocarpine in conjunction with digitalis in the treatment of the œdema of Bright's disease. We cannot know too much of the physiological action of remedies. Medication is the end and aim of all our study and investigation.]

The Bile.—One of the generally accepted functions of the bile (that of being nature's purgative) has received strong confirmation by experiments made by Schülen upon dogs. He found that bile and its acids, when brought into the intestines, causes diarrhœa by increase of peristaltic action, and in large doses, also vomiting. Cholalic acid is more powerful than either tauroocholic or glycocholic acids or bile itself. The amount of

cholate of sodium necessary to cause diarrhœa was 0.5 to 1.0 gramme.

THE JOURNAL OF PHYSIOLOGY.—The successful establishment of this journal especially devoted to physiological investigation marks an epoch in the history of physiology. As long as Foster controls it, we know what to expect, and we will not be disappointed. He is ably assisted in the editorial work by Gamgee, of Manchester; Rutherford, of Edinburgh; Sanderson, of London; Bowditch, of Boston; Martin, of Baltimore, and Wood, of Philadelphia. Able, original and interesting articles have appeared in every number that has yet been issued.

DEFIBRINATED BLOOD FOR RECTAL ALIMENTATION. (*New York Med. Jour.*, April, 1879.)—A committee was appointed by the Therapeutical Society of New York to investigate the benefits of defibrinated blood for rectal alimentation. They had under their care and observation sixty-eight cases which received the treatment. Of thirty-eight cases of phthisis, twenty received decided benefit; one with diarrhœa complicating was made worse; of nine cases of anæmia, eight were greatly improved or cured; five cases of dyspepsia, all received benefit—several cured; one case of dyspeptic asthma entirely relieved; two cases of neuralgia decidedly improved—one not.

The committee arrived at the following conclusions:

1st. That defibrinated blood is admirably adapted for use in rectal alimentation.

2d. That in doses of two to six ounces, it is usually retained without any inconvenience, and is frequently so completely absorbed that very little trace of it can be discovered in the dejections.

3d. That administered in this way once or twice a day, it produces in about one-third of the cases, for the first few days, more or less constipation of the bowels.

4th. That in a small proportion of cases the constipation persists, and even becomes more decided the longer the enemata are continued.

5th. That in a very small percentage of cases irritability of the bowels attends its protracted use.

6th. That it is a valuable aid to the stomach whenever the latter is inadequate to the complete nutrition of the system.

7th. That its use is indicated in all cases not involving the

large intestine and requiring a tonic influence which cannot readily be obtained by remedies employed in the usual way.

8th. That in favorable cases it is capable of giving an impulse to nutrition which is rarely, if ever, obtained from the employment of other remedies.

9th. That its use is wholly unattended by danger.

[These conclusions are interesting from a physiological as well as therapeutic standpoint, and are practical, and they afford a basis for future experimentation and practice.]

RED BLOOD CORPUSCLES. (*Med. Rec., per Detroit Lancet*, Sept., 1879.)—Dr. L. Elsberg propounds the queries regarding the red corpuscles: Do they contract? Are they living bodies? He answers by giving the result of his observations on these points for a period extending over three years. He, in making his observations, added to a drop of blood 50 per cent of a saturated solution of bichromate of potash, covering it with a covering glass, the edges of which had been well oiled, and placing it under a magnifying power of one thousand or more diameters, and had been able to prove that the red blood corpuscle possessed not only inherent power to contract its body, but also to resume its ordinary form, yet not to such an extent as is seen in the colorless corpuscles; they exhibited active form changes and interior movements. The changes in form were of two varieties—indentation and protrusion; sometimes one and sometimes the other taking place, and both might occur in the same corpuscle at the same time. The indentation usually commenced first, and ordinarily predominated. The indentation sometimes went on to almost complete division of the corpuscle.

The author concluded that vital movements took place inside the red blood corpuscle, and also such as changed the form of the body. His investigations enabled him to say that the red blood corpuscles had *no separate investing membrane.* Should his observations prove correct, that the red blood corpuscles are really unattached portions of the living protoplasm of the entire body, it is easy to understand how, after giving up their coloring matter, they may play an important part in the reparative process following extravasations and the proliferations which were induced by inflammation. The red blood corpuscle differs essentially from the white only in the possession of red coloring matter.

Translations from the German.

PHYSIOLOGY, PATHOLOGY AND THERAPEUTICS IN OPHTHALMOLOGY. [Taken from Prof. NAGEL'S *Jahresbericht ueber die Leistungen und Fortschritte im Gebiete der Ophthalmologie*, and from other sources.] By S. POLLAK, M. D., Surgeon to the Eye and Ear Infirmary of the St. Louis Hospital.

STRUCTURE OF THE LAMINA CRIBROSA.

MACKELLAR (*Glasgow Med. Jour.*,) considers that, although the proportion differs in different eyes, yet in most cases of the fibers entering into the formation of the lamina cribrosa, those of the choroid are in excess of those derived from the sclerotic, and in some eyes the choroidal fibers are hardly supplemented by the sclerotic at all. This fact has a great bearing on hypermetropia. In every eye in which a great amount of accommodation is necessary in order to obtain clear vision, the choroid is of necessity pulled upon and strained by the action of the ciliary muscle, and if the lamina cribrosa be mainly formed by that tunic, it follows that the optic disk, the retina and its vessels are all exposed to serious disturbance. Whenever the ciliary contracts, the fibers of the choroid, which pass through and support the optic nerve, are put on a stretch, and the retinal vessels and disk suffer; and whenever that muscle relaxes the whole fundus becomes abnormally hyperæmic from the sudden cessation of tension of the lamina cribrosa. Thus many cases of retinitis hyperæmia, with subsequent anæmia and atrophy of the disk, may be due, not to primary alterations in the tissues themselves, but to the effect of choroidal irritation.

TOXIC AND OTHER DISADVANTAGES OF ATROPIA COLLYRIA.

Several cases of poisoning by atropia collyria have come under observation, and were discussed at a meeting of the *Société de Medicine de Paris*. Such lotions may penetrate into the puncta lachrymalia, and thence into the pharynx and digestive

tract, thereby causing very serious toxic symptoms. These accidents, however, do not last long, and are remarkable for the suddenness with which they both appear and disappear. Precautions ought to be taken to avoid them by compressing the puncta lachrymalia during the application, and thereby preventing the liquid from passing into them and thence into the pharynx.

PELTIER (Thèse de Paris) says that the symptoms vary exceedingly in intensity, from a simple heightening of the temperature to a general intoxication, but in every case they must be ascribed to an idiosyncrasy which cannot tolerate atropiæ. The characteristic symptoms of atropia poisoning are, dryness of mouth and throat, unquenchable thirst, loss of taste, feeling of numbness in the face, excessive mydriasis, cephalalgia, vertigo, giddiness, photopsia and delirium; sometimes intense peri-orbitary pains and violent conjunctivitis and eczema of the eyelids.

The dangerous effects of atropia may be successfully counteracted by a hypodermic injection of morphia. If such an injection be given at night the atropia may be used during the following day without experiencing bad results. Whether the poisoning arises from the atropia being conducted through the lachrymal duct into the digestive tube, or if the absorption does not rather take place through the conjunctivæ, which is known to possess rapid powers of absorption, is a mooted question.

As atropia is apt to give rise to troublesome and dangerous symptoms, the desire has naturally arisen to discover some other substance which possesses all its efficient properties without its drawbacks. Several alkaloids have been suggested, such as daturine, hyoscyamin, eserine, duboisia, gelseminum and chlorhydrate of pilocarpine.

VON WECKER thinks that *eserine* will take the place of atropia in the treatment of affections of the cornea, for the following reasons: 1st, eserine lowers the ocular pressure, while atropine increases it by dilating the vessels. 2d, eserine diminishes the secretions of the conjunctivæ by contracting the vessels, while atropine increases it. 3d, It reduces diapedesis, but atropia, by pushing the iris back towards the corner of the anterior chamber, is apt to retain the eye fluids, which ought to be allowed to flow out.

Duboisia is being used with great success in cases where atro-

pia could not be tolerated. The high price of it precludes its being used in general ophthalmic practice.

SAMELSOHN, on *vaso-motor disturbance* of the eye (*Archives für Ophth.*,) mentions a case of *hemicrania angio-paralytica*, in which during several attacks, myosis with deep pericorneal injection of the eye of the affected side was found; and another where myosis, but no injection, was seen; and again in *amphicrania*, or double-sided hemicrania, where the pupil was dilated with ciliary injection.

The following interesting case of an intermediate form between *hemicrania sympathico-paralytica* and *ptosis sympathico-paralytica* is reported. A man aged thirty-two, after exposure, sickened with a moderate ptosis of the left eye, periodical flow of hot tears, and also watery secretion from left nostril, hyperæmia of bulba and palpebral conjunctiva, strong ciliary injection, especially in upper and outer quadrant of the cornea, cornea clear, pupil contracted, retinal vessels normal, tension not observed, left side of the face very ruddy, especially when under excitement; temporal artery and carotids pulsated much stronger on the left side; on the left upper lip herpetic eruption; a sensation of heat, heaviness and pressure on the left side of the face, increasing almost to neuralgia. Samelsohn regarded this as a disease of the left cervical sympathetic; it was promptly relieved by the application of the constant current.

The same writer, in an elaborate essay (*Arch. für Ophth.*,) tries to establish the pathology of *cyclitis vaso motoria*. The disease is characterized by a deep pericorneal injection, extending to the posterior border of the ciliary body, contraction of pupil, but otherwise normal appearance of iris, violent neuralgic pain. The angioneurotic character of it is proven by, that through its entire course, no *inflammatory product is found*, and by *its very sudden termination* on the *appearance of a herpatic eruption on the head.*

The diagnosis is often difficult on account of the few objective symptoms. Prognosis usually favorable; treatment—a let alone. The following cases are noteworthy: A man æt. twenty-eight, became affected with a painful ophthalmia; the medial side of the cornea was deeply injected, intra-ocular pressure and iris normal, pupil contracted. Diagnosis: Incipient iritis; atropia effected a slow but imperfect dilatation, upon which pains les-

sened. After a few days a relapse occurred. Injection increased, reaching further back, and appeared to come from a greater depth, iris normal, intra-ocular pressure showed remarkable oscillation; it *increased with the remission of pain, and decreased when the pain was greatest.* At the same time the carotids and the temporalis of the right side pulsated strongly, with congestion to the head. This very distressing condition lasted eleven days, neither antiphlogistics, narcotics, nor quinine were of any avail. and without causing hypopion or vitreous opacities, as might have been expected, when on the twelfth day it came to a sudden termination by the appearance of a herpetic eruption on the right side of the head. The cure was prompt and complete.

In another case, the series of symptoms came in an inverse order. They commenced with a typical herpes facialis, and after cicatrization had begun the eye began to suffer and exhibited all the phases above mentioned.

From these clinical facts, based upon physiological deduction and analogies with other affections attributed to vaso-motor causes, Samelsohn concludes that the cases above related are due to a paralysis of a part of the vaso-motor and ocular-pupillary fibers of the sympathetic (which are distributed in the trigeminus). This paralysis, which had existed some time, disappears suddenly, the exciting cause having been transferred to the adjacent tissue or organ, the primary affection is displaced by a new revulsive act.

GIOVANNI (*Annali Univ. di Med.*,) found the pupil strongly contracted in three cases of heart disease. One was stenosis of the aorta, with insufficiency of aortic valves; the other stenosis of the ostium atrio-venticulare, with mitral insufficiency; and the third, stenosis of the aorta, with mitral insufficiency. All suffered from asthma, with the paroxysms of which myosis increased. The pathology in all these lies in a hyperæmia of the ganglion of the sympathetic, which is not always the case in heart disease.

CARTER (*Lancet*) recommends a new method for making an artificial pupil for optical purposes. In central opacity of cornea or lens the V shaped pupil is the best, but which, by the method of Bowman and Wecker, is rather dangerous to make, giving easily rise to traumatic cataract or dislocation of the lens.

Carter's method is as follows: A small opening is made in the margin of the cornea, through which *Wecker's scissor-pincette* is introduced, closed; on opening it, a small fold of the iris insinuates itself between the branches, which is snipped off on closing them. The pupil has then the desired form. The little piece of iris comes out with the withdrawal of the scissor-pincette, or is removed with the iris forceps. He favors this method on account of its simplicity and harmlessness. The iris remains *in situ*, is not strained, dragged on, and is not likely to adhere to the wound of the cornea. [Has been found easier of execution and less dangerous than any other method tried. S. P.]

MOORE (*Dublin Jour. of Med. Science*) observed the following case of pyæmia in consequence of puerperal phlebitis, in which two days before death, panophthalmitis developed itself, and at the autopsy a thrombosis, embolism of the left vena ophthalmica and of the left sinus cavernosus were found:

A woman æt. twenty-two had a normal confinement, and felt quite well the first four days. On the fifth day fever set in, in consequence of an error in diet; left thigh swelled up enormously; in four weeks pleurisy of the right side supervened. Five weeks after confinement the left eyelid became œdematous and the conjunctiva chemosed. The refracting media were turbid, and consequently ophthalmoscopic examination impossible. Two days later, with symptoms of panophthalmitis, sight was extinct. Death ensued soon after. Necropsy revealed purulent infiltration in all the membranes of the eye, in the vena ophthalmica and sinus cavernosus, coaguli which appeared to be of recent date, and were clearly distinguishable from the softened thrombi in the vena-iliacæ.

In the discussion that followed, Kennedy mentioned that fifty years ago an epidemic typhus prevailed in Dublin, in which total loss of eyes in a similar way was observed. He had himself many cases of destruction of the eye, of pyæmia and spinal meningitis.

BOUCHERT (*Gaz. des Hopitaux*) describes a case of *tubercular meningitis and choroiditis*, clearly made out by the ophthalmoscope. He found a swollen papilla, with ill-defined margin; arteries imperceptible; veins dilated and engorged. In the choroid was a tubercle in the shape of a glistening white spot

which elevated the retina. Autopsy revealed miliary tubercles in the lungs, pleura, liver, spleen and kidneys; acute dropsy in the ventricles of the brain, flattening of the convolution, hyperæmia of the pia, but only one tubercle in the same, a small encephalitic growth in the corpus striatum; both bulbs showed œdema of the papilla and retina; serus effusion in the sheath of the optic nerve, and also a very distinct tubercle in the choroid.

THOMAS REID (*British Med. Jour.*,) exhibited in the Pathological Society of Glasgow four bulbs with *intra-ocular sarcoma*. The first was from a man of twenty, with whom the dark brown tumefaction emanated from the ciliary region. After enucleation examination demonstrated a round and spindle-celled sarcoma. No return after a year.

The second belonged to a man of forty-five, who suffered from an exaggerated exophthalmia, with anterior staphylomatous projection. On opening, the bulbar cavity was filled with a whitish soft mass, but the center was a little more solid and pigmentary, and proved to be a round-cell sarcoma. Six months after enucleation a metastasis in the processus alveolaris of superior maxillary took place. Death ensued five months later.

The third was from a child of eighteen months. After enucleation the orbit was filled with a mass which communicated with a like intra-ocular substance. It returned in a month, and the child died seven days later. Here also was a round-cell sarcoma, with a fibrous stroma.

The fourth was from a man of sixty. The typical melanotic tumor forced its way into the orbit. Relapsed in six months.

WILSON (*Dublin Med. Jour.*,) also exhibited a *pigmentarg sarcoma* of the eye. It was from a man æt. twenty-seven, in whom six months prior to enucleation, an anterior staphyloma had developed, which was amputated, but which proved to be the anterior part of a melanotic tumor. The opening of the bulbs showed no trace of a retina, lens, iris or vitreus, but the entire bulbar cavity was filled with a homogenous black mass. The tumor was a small spindle-celled pigmentary sarcoma, which emanated from the choroidea.

NETTLESHIP (*Ophth. Hosp. Reports*) gives the after history of fifteen cases of *malignant tumor* of the eye. In four relapses

either local or general, which occurred, there was always reason to assume that the primary disease had existed many years prior to enucleation. In two, hereditary disposition was shown; in two, relapses occurred very quickly; in three, metastasis upon other organs were found. In no instance was the affection of the eye in its relation with glandular disease demonstrable.

Translations from the Spanish.

EXCERPTS FROM LATE SPANISH JOURNALS. [Translated for the JOURNAL by Dr. A. H. OHMANN-DUMESNIL.

CLINICAL STUDY OF YELLOW FEVER.—According to Dr. Cunisset, yellow fever is not a *poisoning by bile*, for its pigments can neither be found in the blood nor in the urine except in very rare cases. The biliary salts exist neither in the matters vomited, fæces, urine or blood. Instead of vomiting a biliary intoxication there seems to be rather a deficiency in its secretion.

It is not a *poisoning by cholesterin*, for it is not found in the blood except in inappreciable quantities.

It is not due to *uræmic intoxication*, for in many fatal cases elimination of urea is not diminished. The blood alone contains an infinitesimal quantity; the quantity of urea however is diminished. If, in cases complicated with suppression of urine, the patients die in such a short time, it is because the blood cannot disengage itself of products of incomplete decomposition, these products being intermediate between urea and albuminoids.

It is not due to *poisoning by ammonium carbonate*, as the blood does not contain any, as the urine is decidedly acid in reaction.

The author thinks that the true pathology of yellow fever consists in a *fatty degeneration of glandular and muscular tissue and the loss of hæmoglobin through the serum of the blood.*

The fatty matters infiltrating the viscera owe their origin to a transformation of the proteid element of the tissue. The cause is an incomplete combustion and decomposition. Instead of receiving a quantity of oxy-hæmoglobin, sufficient to oxydize

and convert the albuminous substances into urea, the viscera receive less than in their normal state. These materials then are decomposed into fatty and nitrogenized particles. The former remain where they are formed and the latter pass into the blood and infect or poison it.

The author can furnish no positive proof of a smaller amount of oxy-hæmoglobin being sent to the viscera, but says that this is easily conceived when we consider the alterations going on in the blood.

It is observed that hæmoglobin is found in the serum; this is from red blood corpuscles which can not absorb oxygen and for that reason split up. Dr. Cunisset supposes that a ferment is introduced in the organism, this ferment depriving the hæmatin of one-fourth of its oxygen and thus preventing the formation of hæmoglobin and through it of oxy-hæmoglobin.—*Chronica Medico Quirurgica de la Habana*, July, 1879.

CONGENITAL AMAUROSIS SPONTANEOUSLY CURED AT THE FIRST APPEARANCE OF THE MENSTRUAL FLOW.—Dr. J. Santos Ternandez, after a short preliminary dissertation on the various effects of menstruation on different diseases, noting its almost invariably beneficial effect, gives an account of the following case:

On March 23, 1879, Miss Aurora X., accompained by a well-known physician, presented herself for examination. She was 22 years old, of average height, well formed and of a nervous lymphatic temperament; born in South America, her father being German and her mother Spanish; she said that she was born blind. All means to effect a cure had been unsuccessfully tried in her infancy and these proving unavailing she was left without any treatment. She remained in this state until she attained the age of 14 ½ years. One morning on awakening she was struck by a new and unknown sensation—she saw; the furniture and other objects in the room presenting forms totally unknown to her. A great terror seized upon her and she was with great difficulty calmed by her mother. On superficial examination there is nothing to indicate the former existence of any previously existing amaurosis.

The eyes are large and slightly bulging, as they are in ordinary myopia, the left being slightly more pronounced in this respect. This would have been attributed to a blow received on the left nasal bone and inner and inferior part of the left orbit,

the result of an accident in her sixth year, had not there been the assurance that it had always existed.

The acuteness of vision is perfect, as by holding a book sufficiently near, she can read the smallest type with either eye. She recognizes a person at a moderate distance with tolerable accuracy; she uses concave lenses, about No. 8.

In the fundus of the eye everything appears normal. At the external margin of each pupil there is a slight posterior staphyloma, almost inperceptible in the right and about two lines in extent in the left. This confirms the existence of myopia.

The author asks: "How can this amaurosis and its cure be explained?" The absence of any lesion in the fundus, the perfect transparency of the different media, the normal movements of the pupil and the vessels preclude any idea of a sudden change having taken place. He thinks it best to suspend judgment till a satisfactory explanation is offered to this question which he commits to the care of physiologists to elucidate.—*Ibid.*

Translations from the French.

EXCERPTS FROM LATE FRENCH JOURNALS. MUSCULAR POISONS. By DR. A. H. OHMANN-DUMESNIL.

M. Laborde, at a meeting of the Biological Society of Paris, gave the results of some of his investigations. He defines a muscular poison as one which abolishes contractility, but which leaves intact the stimulating power of the nerves and does not alter the histological constitution of the tissues. If, for example, a muscular poison like curare be placed directly upon a muscle, the contractility is, in a short time, abolished, and symptoms of a general intoxication soon supervene.

Sulpho-cyanide of potassium, experimented with in the same way, also abolishes contractility, but it at the same time modifies the histological elements of the muscle. For, on examination he finds that those parts which have been in contact with the poison are granular and that the striæ have disappeared. Symmetrical muscles are not affected in pairs, and the heart continues

its contractions unless the sulpho-cyanide be directly applied to it. By employing this and other methods, the author comes to the conclusion that not only is sulpho-cyanide of potassium not a true muscular poison, but that there is none of mineral origin. They are all of vegetable origin.—*Progrés Médicale, Aug. 2, 1879.*

Muriate of Pilocarpine in Obstetrics.—M. Hyernaux, in a paper to the Belgian Academy of Medicine, makes the following conclusions in regard to the drug. 1. Pilocarpine exercises no special oxytocic action on the uterus. 2. It may produce abortion, just as any other medicine of a violent action may. 3. That from observed facts, it is dangerous to the mother and fœtus alike. 4. That its effects are to be still studied *in animâ viti*, in preference to the human subject. Prof. Müller, of Berne, supports these views, he having largely experimented upon pregnant women.—*Lyon Médicale, Aug. 3, 1879.*

Ocular Lateropulsion in Paralysis Agitans.—In February, 1878, M. Debove was the first to have recorded this curious phenomenon and Dr. E. Neumann gives an account of a similar case in his charge. The patient, a man aged 62, has had paralysis agitans for about six years. Besides the classical symptoms, he has one which especially deserves attention. When he reads he experiences great fatigue after a short time. This is due to the severe exercise his eyes undergo, for whenever he has finished a line he has to search for the beginning of the next one. If he reads a book in which the pages are divided into columns, or a newspaper, the difficulty is increased, and he will often entirely lose the place. Often he will read lines in the different columns which are on the same horizontal plane, i. e., his eyes will follow the direction they have taken and this involuntarily. This the author says is due to the impulse acquired and is a true propulsive, or a rather, latero-pulsive action in no wise differing from that observed in the limbs. To arrest this movement, or resume anew, induces great fatigue, and the author thinks that this is a symptom which merits attention.—*Progrés Médicale, Aug. 9, 1879.*

Dermoid Cysts.—M. E. Gironde embodies the results of his observations on three dermoid cysts, in an interesting paper, the cases being given in detail. Two were in comparatively rare sites, the median line of the neck and the mastoid region. The

cysts were lined by skin covered with hair. The skin in every instance was devoid of papillæ and of sudoriparous glands and the sebaceous glands were very rudimentary. — *Lyon Médicale, Aug. 17, 1879.*

Monstrosity.—Dr. A. Malherbe presented to the Anatomical Society of Paris a cast of a fœtus of about 7½ months, having the following peculiarities: A single eye in the middle of the face; below the forehead a lozenge-shaped opening formed by the fusion of the palpebral openings. The superior angle of this cavity is surmounted by a flabby, penis-like projection having a cavity termination in a *cul-de-sac.* In the eye all the parts are present except the optic nerve. The mouth is normal as are also the body and extremities. The projection above the eye is undoubtedly the rudiments of the nose. The monstrosity comes under the class of Rhinocephalic Cyclops (*Cyclopean rhinocephale*) of Geoffroy St. Hilaire.—*Progrés Médicale, Aug. 23, 1879.*

Death from Venous Hemorrhage.—Dr. Lafont gives the account of a case, very interesting in a medico-legal point of view. A man, aged 62, cut the median cephalic and one or two smaller veins of the left arm, with suicidal intent. The author is positive that no artery was cut and still the hemorrhage was so great that it amounted to about six litres. Syncope and death followed. The victim was found in bed with clean linen on, a razor by his side and not a drop of blood on the clothes, except what was due to the razor. In a zinc bucket at the bedside the amount of blood specified was found.—*Ibid.*

Proceedings of Medical Societies.

MITCHELL DISTRICT (IND.) MEDICAL SOCIETY.

ADDRESS ON THE AIMS AND OBJECTS OF THE SOCIETY. By G. W. BURTON, M. D., of Mitchell, Ind.

Some of the objects of this Society are to give "frequent and emphatic expressions to the views and aims of the profession; the elevation of the standard of medical education; for promoting the usefulness, honor and interests of the medical profession; for encouraging concert of action among its members; for fostering a friendly intercourse between those engaged in it; for enlightening and directing public opinion in regard to the duties, responsibilities and requirements of medical men; and for the promotion of all measures adapted to the relief of the suffering, and to improve the health and protect the lives of the community."

To consider these various objects at length would not come within the scope of a paper like this. I need not call the attention of medical men to the importance of these objects; they are apparent. To the laity I will say that our rapid advance (and I apprehend that you will all concede that the advance in the healing art has been equal to that of any other department of civilization) in the last decade has been due to the expression of the views and the opinions of organized bodies of our profession. In fact our medical literature is teeming with the views and opinions of the leading spirits of the medical world, expressed in organized bodies or societies.

That the standard of medical education is being elevated is also apparent, three full years of study and an additional course of lectures being required in most of our colleges; twenty weeks for a course in lieu of fourteen to sixteen, as heretofore, with increased facilities for study in pathology, microscopy, chemistry, physical diagnosis, etc.

That friendly intercourse is gaining ground is evident from the frequent medical gatherings, and the interchange of opinions and experience; also from the more frequent consultations in the sick chamber. You will pardon me, gentlemen, for urging upon you the importance of consultations. Let us share together the responsibilities of all dangerous maladies where life is seriously threatened, and in that spirit that ought to characterize a learned

profession, but never, never coming down to the level of an irregular, in the duties pertaining thereto.

In our efforts to enlighten public opinion as to the duties, responsibilities and qualifications of medical men, we are very far from what we could wish. The law of the great State of Indiana only requires of a would-be doctor for him to say so, "swing his shingle to the breeze," and go at once to making "pills and bills." And, strange to say, our people, intelligent as they are, do not hesitate to patronize these venders of dangerous and poisonous drugs. Since the enactment of medical laws in the States of Illinois, Kentucky and Ohio, it is estimated that 600 doctors have been added to Indiana from those States that were not recognized at home.

The last proposition is that to which I especially desire to call your attention, "To improve the health and protect the lives of the community." We are not provided with correct data, and in our statements can only approximate the facts. We have no means of knowing in this State how many have been born, and of what parentage; how many have died, of what disease, and at what age, we know not, and can never know. There have been repeated epidemics of cholera, of small-pox and other contagions, spreading more or less over the State; but what destruction of life they have wrought, what suffering they have inflicted, and what damage done to the social and material prosperity of the State, cannot, for want of proper records, be even approximated. We know that similar epidemics will occur again and again, unless measures are adopted to prevent them.

Small-pox, typhoid fever, scarlet fever, diphtheria, cholera, yellow fever, malarial fever, and the varous complaints known to be caused by filth, are among the preventable diseases. Distinguished sanitarians all over the country are of opinion that, with proper sanitary regulations, one-half of the sickness and death could be prevented. Dr. Charlton, of Jackson County, is of opinion that a system of effective drainage and other sanitary improvements in that county would prevent half the sickness and death, and be a saving in money to the county of $50,000 annually. Gentlemen with whom I conversed during the late session of the Indiana State Medical Society from the west and southwestern portions of the State, are of opinion that more than half of the sickness of their respective communities, by proper sanitary regulations, could be prevented. In fact, it is the opinion that obtains in all parts of the country.

The death rate in Indiana is variously estimated at from 32,000 to 46,000 annually. Taking a financial view, it is one of the most expensive and wasteful directions in which imperfectly organized society is taxed for its carelessness and ignorance. The money value of a human life, according to Dr. Farr, Register-General of England, is $625. The value of a soldier in the United States is calculated at $1,000, based on the cost of re-

placing the soldier. Now, I do not consider this a fair estimate, but for the present we will so consider it. It is generally conceded that the sick that recover will cost the State more than three times as much as the deaths. (It is allowed for every death there are twenty cases of sickness.) Now, if these figures are correct, the loss from death to the State is $16,000,000, from sickness, $48,000,000. The cost to Indiana (according to these figures) from sickness and death, that might be prevented, that ought to be prevented, is the enormous sum of $64,000,000 annually. But we will suppose that only one-fourth of it could be prevented, and we have $16,000,000; or allow that by proper sanitary regulations only one-tenth could be prevented, and still we have the enormous sum of $6,400,000 saved.

The cost of the most efficient sanitary measures would be but the merest trifle, when compared with such losses. Life is too precious, and health too dear, to be held in unnecessary jeopardy. The best protection that the sanitarian and legislator can provide must be secured. The "spirit of the age" demands legislation. Twenty States of this Union have already invoked the authority of the law in defense of the public health. Shall the great State of Indiana follow? A measure so obviously affecting and conserving the dearest interests of the people cannot much longer be delayed. The value of the knowledge such legislation would accumulate, gathered from so wide a field, and the contributions it would make to science and the progress of the race, could not be estimated. But the material prosperity which would follow, consequent upon the decrease of mortality and the longer enjoyment of life and better health, would cover the cost a thousandfold. Besides there is more than money and more than science in it. The lives which affection has consecrated are more precious than rubies, more valuable than science. There are springing hopes and loving hearts upon which no price can be set.

In view of the great loss of human life, and human suffering that could be prevented, that ought to be prevented, what is our duty? What does the medical profession owe the public that has not already been discharged? It is true that a great many members of our profession, aye, I doubt not but a large majority, have raised the warning voice and cried against the evils that threaten humanity, and yet failed to arouse them to a sense of their danger. Must they continue? Most assuredly. It is our positive duty to wage a ceaseless warfare against our great enemy, disease, and in favor of sound sanitation. Every principle of humanity demands it; the poor physical wrecks coming from our schools, colleges and universities, demand it; the helpless children of the land, exposed to contagions, to illy-ventilated homes, and worse school buildings, demand it. We owe it to the memory of our brethren who in so many battle-fields against disease and death, who, Christ-like, had given their lives for suffering humanity.

CEPHALÆMATOMA NEONATORUM. By H. M. SMITH, M, D., of Vincennes, Ind.

This term is employed to designate a non-pulsating, sanguineous tumor which forms sometimes in the cellular tissue of the scalp of the new born child, between the bones of the skull and the pericranium. Its color differs not from the surrounding integument, and it varies in size from that of an egg to that of an orange, according to the quantity of blood extravasated. This must not be confounded with the false cephalæmatoma produced by effusion of blood in the cellular tissue between the aponeurosis of the scalp and pericranium, which is simply a bruise, and is of a purplish cast. The latter is frequently met after protracted labors and demands little if any treatment, for it disappears in a few days spontaneously. But such is not the case with true cephalæmatoma, since serious consequences and even death have resulted from it, although the accident has been often treated lightly by the profession, and some of the authors on the diseases of children do not mention it, a circumstance, owing I think, to its rare occurrence and its being confounded with the false disease, which is familiar to every general practitioner of medicine.

Cephalæmatoma may occur in any part of the scalp, but its usual seat is over one or the other parietal bone. Statistics show that out of 189 cases recorded, 159 occurred over one or the other parietal bone, 11 on both sides, 2 on the occipital, 2 on the frontal and 1 on the temporal bone. It is said to occur most frequently in male children, although no reason is discernible for such an occurrence.

The tumor may or may not be fluctuating when observed by the practitioner, and may or may not pit upon pressure, owing to the changes which speedily take place in the blood after extravasation; the longer the time elapsed before observation after the accident, the less likelihood that fluctuation will be observed and the more certainly will pitting follow pressure. In his treatise on the diseases of children, Tanner says that in addition to the sub-cranial hemorrhage, effusion may occur between the dura mater and the skull, and then the prognosis is quite unfavorable. The same authority says the base of the tumor often becomes encircled by a hard ring caused probably by the occurrence of ossification in the exudation which is poured out by the irritated pericranium.

The remote cause of the disease has been generally attributed to protracted and difficult labors, especially where instrumental deliveries have been resorted to, but such has not been my own nor the experience of many who have written upon the subject.

During a practice of more than thirty years, the writer has never met with but one case, and that did not follow instrumental delivery, whilst the latter form of delivery has not been infrequent in his experience. On the other hand, Dr. Weber, in the *St. Petersburg Wochenschrift*, says in fifteen years he met with 20 cases, all resulting, in his belief, from instrumental deliveries. But others, equally laborious in the practice of gynæcology, assert that such accidents often follow easy labors and even pedalic deliveries. Tanner says the accident may result from long continued pressure upon the head during difficult labor or it may appear after an easy delivery. That the disease often occurs after difficult labors is doubtless true, yet the fragility of the the blood vessels in certain conditions of the nervous system, contributes largely to the liability of the occurrence, and may cause it, without any great pressure immediately preceding it.

From what has been said, as might be expected, the treatment of cephalæmatoma neonatorum as recommended, is as diverse as are the standpoints which the different authors take. Tanner has generally left the treatment to nature, rarely even using evaporating lotions, while Neagle, Dubois and others recommend free incision, the removal of the blood and compression. But Tanner adds, should suppuration supervene, early evacuation should be resorted to. Bedford recommends only evaporating lotions, such as aromatic spirits and sal ammoniac, and gentle compression by bandage or a closely fitting cap. Gassner, of Wurzburg, removes the extravasated blood with an aspirator under carbolized spray and follows the operation with antiseptic compresses, and asserts that cures follow more speedily this, than any other treatment. Dr. Kurz, of Tubingen, reports two cases of operative treatment in this accident. In the first case the tumor remaining the size of an egg the fourteenth day after birth; he gave exit to the blood by several incisions, after which compression was applied, and on the third day following the swelling had disappeared. In the second case the tumor was the size of an apple on the seventh day after birth, when he operated by incision and on the following day the tumor had disappeared. In the cases reported by Dr. Weber, the expectant plan of treatment was pursued, with application of lotions of tinct. arnica and diacetate of lead, recovery taking place from two to three weeks. But we may meet with cases less amenable to treatment as the following in my practice illustrates.

Mrs. H., primipara, aged about 20 years, well developed, medium in size and enjoying good health, was taken in labor on the 7th day of May, 1878, at midnight. A messenger arrived for me about 1 A. M., but being absent attending a similar case, my friend, Dr. O'Connell Fairhurst answered the call. On arrival he found the parts in a good condition, and os tincæ dilating rapidly and everything augured a speedy and safe delivery, an occurrence which took place in about two hours, without diffi-

culty in any way so far as he could observe. The day following that night a tumor on the side of the head was observed by the mother and nurse, at which time Dr. F. was consulted about it. He said to the father that he presumed that it demanded no treatment. But the tumor continuing to increase, on the fourth day after delivery I was called to see it, and found upon examination that it was a case of true cephalæmatoma neonatorum. The family then stated that the tumor had increased gradually from the time of its discovery, and that it was now twice its original size, it now being the size of an orange, and covered the whole of the left parietal bone, and reached downward to the ear, backward to the occiput, and forward to the coronal suture. It was tense; no great fluctuation was observed. The child nursed well, and seemed but little affected by the accident. But considering the increasing size, I deemed interference justifiable, and accordingly made an incision into the central part. Following the withdrawal of the lancet a dark stream of blood flowed slowly, which soon subsided into mere droppings. Not having time to wait and watch the result, I left a styptic solution to be applied if at any time there should be too great a flow, and gave instructions to use a compress by making a close-fitting cap, and report to me on the following day. When I left, the tumor had been reduced in size about one-third.

The father reported that the flow continued several hours, and until the blood changed to a red appearance, and the child seemed much prostrated, when it was stopped by the styptic and compress. The tumor was now half its original size. The child soon rallied from its prostration, and took the breast freely. The following lotion was ordered:

℞ Diacetate plumbi.....℥ij.
Tinct arnica.....℥j.
Aqua.....o. j. M.

To be constantly applied with a pledget of lint and a closely-fitting cap over the same, a bandage being impracticable. This treatment was persisted in, and the tumor gradually decreased in size, contracting from the circumference, and the fascia becoming adherent to the pericranium, as convalescence progressed, until the present, June 22d, six weeks from the accident, its circumference, now not exceeding a silver quarter dollar, and has ceased to give concern to its parents.

The points of interest in this, are: 1st, its rarity in our locality, this being the first case, as before stated, observed by the writer in the scope of his own practice, and observation of that of his professional brethren. 2d, that the incision did not bring that speedy relief so confidently spoken of by writers. 3d, that the bleeding, though only in a small, oozing stream, in a few hours induced the greatest prostration, which, without vigilance, might have proved fatal. 4th, that the extravasation of blood

did not stop, as is usually the case, but continued to flow up to the time of the operation, as was evidenced by the increasing size. 5th, that evacuation, stimulant and evaporating lotions and compression failed to produce a cure in twice the time allotted by writers to extreme cases.

THE AMERICAN LARYNGOLOGICAL ASSOCIATION.

CHRONIC NASAL CATARRH.* By THOS. F. RUMBOLD, M. D., of St. Louis.

If examination of chronic catarrhal patients, aged from five to fifteen years, be made by natural light, it will be observed that the color of the mucous membrane of the nasal and pharyngo-nasal cavities is a little darker red than the healthy mucous membrane covering the anterior surface of the soft palate (which is usually healthy); the whole surface of these passages is smooth, and has a glazed appearance; the quantity of the muco-purulent secretion is seldom so great as to hide the color of the membrane. The color of the membrane of patients from fifteen to thirty years of age is dark red; in tobacco patients the color is purplish red. In a circle of half an inch in diameter, from two to five blood vessels will be plainly visible; generally they are nearly straight in their course. The whole surface will be found to be coated with muco-purulent secretion, but the greater amount of the secretion will be seen where the membrane forms creases, as on the under portion of the turbinated processes, and in the immediate neighborhood of the Eustachian tubes. Accumulations will also be found on the surfaces most exposed to the direct cur-

* No effort has been made in this paper to show why I should not use the anterior or posterior nasal syringe or the common nasal douche, or use the sponge or brush, introduced either behind the soft palate or through the anterior nares. Nor have I attempted to give my reasons for not using the usual astringent remedies, such as sulphate of copper, sulphate of zinc, nitrate of silver and the preparations of iron, etc. This would increase this paper to many times its present size. I have only endeavored to give the method as followed by me in my every day practice in the treatment of this very common complaint.

rent of air made by respiration, as on the superior turbinated processes, and the posterior wall of the pharynx. In a large majority of such cases the mucous membrane will be found to be hypertrophied and roughened. In patients of thirty years of age and upward, it will be observed that the mucous membrane has a granular appearance, and in places is much hypertrophied. In a circle of half an inch in diameter there will be seen from four to eight blood vessels, and instead of their being nearly straight, as they are in the middle class, they will be very tortuous, and irregular in their caliber, and from twenty to fifty times their normal diameter. With these patients, accumulations of inspissated secretion is hardly ever seen, while with the middle class, such accretions are abundant, and are frequently seen in a crusted condition, but with the youngest class mentioned the incrustations are seldom seen, yet a greater flow of muco-purulent secretion is usually observable in them than in the older classes.

I account for this peculiarity of the effect of the inflammatory process on the secretion of patients of different ages in this way: With the youngest class, the blood vessels are not nearly so large as they are in the middle class; consequently, while the blood flows with great rapidity through the inflamed parts, yet its volume is not sufficient to create the heat required to cause evaporation of the fluid portion of the muco-purulent secretion to the extent of producing inspissation. With the middle class, all conditions favorable to rapid inspissation are present; the blood vessels are large, the blood supply is nearly as large in proportion, so that in these patients the inflammatory process has assumed such a degree of activity that the heat drives off the liquid portion of the secretion, leaving it in a more or less thick or dry condition. With the oldest class, while the most of the blood vessels have become much larger than those of the middle class, the flow of blood through them is very much slower, as is evidenced by the tortuous position the vessels are compelled to assume. My observations have led me to believe that a vessel may be enlarged to a certain extent, and still allow a large (but not proportionately as large) increase of the flow of the blood through it, but so soon as it passes, in its progress of enlargement, a certain boundary (at present unknown to me), it rapidly loses its power to propel its contents; consequently, a larger amount of blood is driven into it from adjacent normal vessels than there is that leave it, thus still further enlarging it, and causing it to

become more tortuous. The effect of the diminution of the flow of blood is to lower the temperature. Accompanying this condition of the mucous membrane is a certain amount of local anæsthesia, another evidence of lowering of the normal temperature.

With the youngest class named, the subjective symptoms are seldom very painful. The obtuseness of their hearing; the difficulty in respiration through the nose, on account of the thickening of the nasal mucous membrane; the flow of secretions from the anterior nares, and the changed voice, caused by enlarged tonsils and partially closed nasal passages, are about all that is observable. The middle class usually have recurring pains in the upper portion of the nose and the top of the head, the back of the neck, the shoulders, and arms, and a difficulty of clearing the secretions from the head and throat in the morning; these are their most common symptoms. The subjective symptoms of the oldest class are usually less painful than those of the middle class, but in their place we have exhibitions of several mental phenomena that are almost never seen in the youngest class, and but seldom observed in the middle class. Named in the order in which I have observed their frequency, they are: Unusual forgetfulness, irritability and despondency; unaccountable fear or dread that something terrible is about to happen; inability to think consecutively; paralysis agitans of the muscles of the arm, the neck, the ear,* etc.; fear of mental derangement; and lastly, mental derangement itself. These symptoms do not always affect this class alone; some of them may be observed in the second class, and some that are usually observed in the second, may be seen in the first class.

Of course no effort has been made to give the total symptomatology of catarrh, but those symptoms only that are common with each class, and that will be sufficient to elucidate one of the objects of this paper, viz: that the changes that are made by a long continued inflammation, are too great and permanent to be eradicated in a few weeks, or a few months, or a few years, and in some cases even during their life.

The first thing to be done to either of these classes of patients, when they have so large a quantity of secretion on the mucous

* Tinnitus aurium is but a paralysis agitans of the laxator or tensor of tympani or the stapedius.

membrane that it hides its color, is the employment of a weak solution of carbolic acid, common table salt and glycerine, made in warm water, to cleanse the whole surface. This should be thrown into the cavities by means of a spray producer that throws a vertical stream acting on the pharyngo-nasal cavity; another that throws its stream into the posterior nares, and a third that throws its stream into the anterior nares. Should the fauces and the posterior wall of the pharynx be coated with muco-purulent secretion, these also ought to be cleansed by spray producers that act on their surfaces.

If these spray producers have not sufficient force to properly cleanse the parts, then the catheter nasal douche should be employed, as it is essential to successful treatment of the patient, that all of the catarrhal surfaces within reach should be made clean before the remedy is applied.

After the cleansing is completed, the application of vaseline ʒ j and carbolic acid m. ij and glycerine ʒ ij should be made by means of the spray producers already named, using with each instrument about a half of a dram of the mixture; this is repeated at each visit. The application of the spray through the anterior nares, will not reach the entire mucous surface of the posterior nares and pharyngo-nasal cavity, the anatomical formation of the turbinated processes preventing this.

The effect of these applications will be to mitigate, immediately, many of the prominent subjective symptoms. It is a very common occurrence for my patients to voluntarily state, immediately after an operation, that they feel relieved in the nasal passages and in the throat, and that respiration is carried on with less difficulty and more satisfaction. Should the secretion in the nasal passages be profuse, the patient should be requested to cleanse the cavities each morning by snuffing from the palm of the hand, or from a small sponge, warm salt water in which a small quantity of carbolic acid is dissolved.

At the second visit, the patient will usually announce that the secretions came away from the throat and nasal passages more freely than formerly; that he does not have as much headache, nor does he have the morning sickness that he usually experienced while clearing the throat. At the third or fourth visit the patient will report a continued improvement in all of the prominent subjective symptoms, especially the subsidence of pain.

On examination of the patient at this period, the only altera-

tion that will be observable, is that the secretion on the surface of the nasal and pharyngo-nasal cavities will be a little less in quantity than it was at the first visit; the blood vessels will be more plainly visible because there is a thinner coat of muco-purulent secretion covering them. After five or six treatments, the purulent character of the secretion usually disappears, and in some cases the amount of mucus is much lessened.

Upon inspection of the throat at about the tenth visit, the membrane will be found to be less swollen and not so dark red; the blood vessels may not be materially lessened in size, but they will be more plainly visible; all of the symptoms, objective as well as subjective, will be materially lessened.

The question may be asked: "As the patient has reported himself in an improved condition, the prominent symptoms having nearly all disappeared, what evidence does the inspection of these parts afford, that there is an improvement?" It is this: The muco-purulent secretion on a chronically inflamed mucous membrane adheres tenaciously, the surface seems to lack the ability to throw it off. For instance, if the inflammation in the pharyngo-nasal cavity is not decreasing, the muco-purulent secretion will adhere so tenaciously to the surface that it cannot be removed except by the aid of a brush, and even by this means it will not be accomplished without some difficulty, but if the case is improving, the secretions will flow off of themselves, and the surface will be seen to be nearly in a clean condition. After the tenth to the fifteenth treatment, the mucus is not visible at all, although it certainly is secreted. The reason of this is, that the mucous membrane has regained so much of its normal activity or tonicity, that it sheds off any redundancy of mucus. In this condition of the membrane, the secretion does not adhere to the surface, nor indeed, do I think that it could be made to adhere to it, even by the aid of a brush, which is quite a contrast to that observed at the first inspection. The degree of tenacity with which the mucus adheres, is a good indication of the degree of the chronicity of the inflammation, and also the degree of improvement in the case.

The number of treatments required by the youngest class, who have catarrh of medium severity, varies with different individuals. A greater number is required by the light-haired and light-complexioned than by those of dark complexion. Usually the treatment should be given once a day, from two to four days—

then once every other day for from two to four weeks—then two times a week for the same length of time, and once a week for the same length of time. During the last three-fourths of this course, the symptoms which were prominent in either class should have entirely disappeared. During the latter half of this course, it is expected that there will be no muco-purulent secretion seen at any time, and that the quantity of mucus should have diminished to very nearly the normal quantity.

The middle class will require a greater number of treatments, than the youngest class, and the oldest a still greater number than either of the other classes. At the end of this course, the most of the patients belonging to the middle and oldest classes will feel as though they had never been afflicted by chronic catarrh, or ever would have it again. Yet if we examine the posterior nares, the pharyngo-nasal cavity, and the fauces, we will find that the mucous membrane is far from being in a normal condition. Its color will still be darker than it should be; the blood vessels, although reduced in size, will still be distinctly visible, and, with the oldest cases, still tortuous, all of which plainly indicate the existence of the chronic catarrhal condition. If this chronic catarrhal inflammation is present, why does not the patient complain of it? Wait awhile, and he will complain, even without aid of an additional cold, or without the least increase of inflammation. Time alone is all that is required. My explanation of this, is, that the rapid decrease of the size of the blood vessels, during the short time occupied in the local treatment, relieved the pressure on the nerves. This decrease of the size of the vessels relieves the pains, just as a partial relaxation of a pressure on the foot or other part of the body would relieve, for the time being, the pain which it first occasioned, but in time this pain will require another letting up of the pressure to again give relief. I may not be correct in my explanation, but my experience has proven to me, over and over again, that this is the course taken by chronic catarrhal inflammation in its progress towards recovery. This plainly indicates that, according to my views, the chronic catarrhal condition is not driven away in a *short* time, as indicated in many of our medical journals, or that it can be *driven* away at all, but that it may be so treated that it will *grow* away, i. e., it will recover its normal condition by the natural processes of repair. I ask, how is it possible to bring a chronic catarrhal mucous membrane to

its normal condition when we know it has, for years, been hypertrophied, and that many of the blood vessels are from twenty to forty times their normal diameter, and that many of the mucous glands must also have been changed in the same proportion? How is it possible to bring all this to a normal condition by a few weeks' application of any kind of a remedy?

After this course of treatment, the patient, even if the catarrhal inflammation has been of medium severity, will be liable to take cold on the next change of the season, be it either fall or spring, but usually a very few treatments will have the effect, in combination with the proper constitutional treatments, of driving away the cold, and in relieving the recurring catarrhal symptoms. The patient will then go on gradually improving, as he did before he had taken the cold. These fall and spring treatments will have to be repeated from three to five years with the youngest and middle classes, with the oldest class they will have to be repeated fall and spring, or fall or spring, during their lifetime. They should receive these few treatments once, or at most, twice a week, from two to six weeks. These fall and spring treatments will have the same beneficial effects, on the youngest and middle classes, that the first long course had in further reducing the size of the blood vessels and the hypertrophy of the membrane.

If we should examine a patient, under thirty years of age, even at the end of the third year of treatment, we will find that the blood vessels, although considerably reduced in size, are still plainly visible. The question may be asked: "Is this case cured, even if the patient reports to have had no catarrhal symptoms during the two years past, except at the change of the seasons? A negative answer must be given. The patient will not have entirely recovered, until all of the blood vessels will have been so reduced in size that they will not be visible to the unaided eye. Four or five neglected colds at succeeding changes of the season, for two or three years, is all that is required to bring about the first chronic condition. But if the patient, as already stated, is treated locally and constitutionally at these changes of the seasons, and thus prevents the colds from again enlarging the blood vessels, i. e., from again bringing on chronic catarrhal inflammation, the improvement will continue until it will have assumed so permanent a character, that the patient may pass over one or two or more of the seasons without incurring a cold or requiring a treatment. A case of chronic catarrh may be

considered cured when the blood vessels of the part have assumed the condition that they are in in the healthy mucous membrane. From this it may be surmised that I, at least, have but few catarrhal patients over thirty years of age, that have recovered entirely, yet I do lay claim to having a large number who, with the fall and spring treatments are enjoying entire immunity of all catarrhal symptoms. It is seen that according to my views, patients over thirty will require to be treated fall and spring during their lifetime, while those from ten to thirty years of age will require treatment, fall and spring, from three to five years. Children under ten may require only one or two years at most.

Of course the local treatment must be assisted by constitutional treatment. I usually give a prescription that combines a tonic, a diuretic and a laxative. Patients should be taught that it is of the greatest importance that they should take every precaution to avoid colds. In order to do this they should be instructed in the proper manner of protecting their bodies by means of suitable clothing. In the event that they should take a cold between the courses of treatment, they should be instructed as to the best method of relieving themselves as soon as possible. A cold should not be allowed to go away of itself, it should *always* be driven away.

TOBACCO. By T. B. SPALDING, M. D., of Troy, Ills.

MR. PRESIDENT AND BROTHERS OF THE MADISON COUNTY MEDICAL SOCIETY:—In a recent essay before this society, I considered the action of alcohol within the human system, and on this occasion I am pleased to respond to your courteous invitation with observations on the action of tobacco. These agents might be profitably presented as almost identical in action, and shown to be largely accessory to each other's sins; but the *temperance* is waived for the *physiological* phase of the argument.

Of tobacco's origin, its introduction, its composition, its cost, the extent of its consumption, and the processes of its preparation, I purposely pass, to deal more directly with it in its physiological relations to the functions and forces of human life.

Eminent authority in every country and in every department of science, concur in classing tobacco among the narcotic poisons, than which, none are more deadly; indeed, like Aaron's rod, it has secure within itself the most magical and worst of all its rivals. Nicotia, sulphuretted hydrogen, hydrocyanic acid! What a den of deadliest poisons, all having their *habitat* in this colossal curse, termed tobacco!

A poison is declared to be "anything whose natural action is capable of producing a morbid, noxious and dangerous effect upon the organization of anything endowed with life." Thus we perceive the definition is the perfect picture of tobacco's action. Acquainted with this agent for over two hundred years, medical science, speaking with the tongue of every science, declares tobacco wholly innutritious, and further still, declares it nauseous; not only that, but noxious; and further yet, a repository of deadliest poisons. From this dictum there is no appeal; in its truth medical men are forced, by their culture, to concur. But even then they dandle with Delila till shorn of strength, and science must still be summoned and held aloft for the healing of the nation. If tobacco is a poison, it ought to act as such, and it may be safely affirmed it *has no other action!* no other use in medicine, than to depress vitality. Thus it nauseates, it paralyzes the nerve centers, producing relaxation of the muscular system, and produces such dreadful prostration that medical literature is full of warning, and abounds with reported cases of fatal poisoning by this agent. When medical science was in her cradle, and chloroform in the embrace of chaos, ere anæsthetics had come, as the olive leaf dove, to the ark of Æsculapius, surgeons soothed their suffering patients with powerful potations of tobacco; and thus they utterly prostrated the vital powers, relaxed the muscular system and then proceeded to reduce laxa-

tions! How direful must have been a patient's difficulty, if half so dreadful and distressing as the remedy.

It may be affirmed and demonstrated of tobacco, what is strikingly exceptional, namely, that it alone of all the vegetable kingdom possesses two active principles—the one an alkaloid and the other oil, and both the deadliest of poisons.

It has been urged in support of fashionable poisons, that because multitudes use them, therefore they can't be especially dangerous; but professional science and experience teach that there isn't an agent in the entire armory of toxicology, but the human system, by continued use, may at length be brought to tolerate it.

One-fifth grain of strychnia, or one grain of morphia, will destroy life, yet, by constant and long continued use, the blunted susceptibilities of the nerve centers may be made so to tolerate these and like poisons that eventually enough may be taken to destroy fifty men. It is demonstrated in the observation of every one that the use of noxious agents, especially tobacco, begets a morbid appetite which demands that continually more of it *may* and *must* be employed to produce the same impression.

Such we know are facts respecting what is noxious, but is not the case with what is nutritious. Medical science is not satisfied with *statements*, but sounds the depths in search of a *philosophy* for asserted facts, and she declares, in this regard, that nutritious agents create and renew nerve cells and structure, and endow them with the finest physiological sensibilities, while noxious agents disturb the conditions essential to their renewal, and so benumb and paralyze their normal sensibilities, and produce inevitably the pathological and characteristic condition of requiring continually more of the disturbing poison to produce the same impression. With these truths we enter the most fascinating field in nature to consider the conduct of this agent in the laboratory of life. Nowhere has Deity evinced such evidences of an intelligent, divine supernatural as here presented in the adaptation of means to ends—in the perfect play of affinities and forces ever operative in the construction and destruction, the waste and renewal, of this physical citadel, that enshrines an immortal soul. The whole sublime but sensitive train of transition involved in the conversion of solid food, first into fluidity, and under the auspices of vital force, transformed upward through intricate gradations till it attains the climax of its course in other solid forms, either of flesh, or bone, or brain, and then the oxidation of these and the evolution of heat and force, is the perfect process of what we term digestion. The brain is the depot of life's dynamics! It is the sun of the physiological system which, with its accessory centers and nerve cords, receive and transmit to the system, a force that propels the mightiest and minutest processes of physical life.

But the ability of these organs—as instruments of the mind—thus to receive and transmit this vital force, depends essentially

on their structural health and perfection. Paralyze or impair the perfection or structural integrity of the brain, disturb the subtile harmony of those changes of waste and renewal ever operative and essential to its structural perfection, and at once its power is impaired to forcibly and healthily perform its functions; and this adverse influence is precisely the action of tobacco as a depressing poison. The proposition is plain, the truth is self-evident and irresistible that with the nerve centers thus benumbed and blighted, and the vital force impaired, then every digestive process dependent on the harmonious action of vital force is weakened and discordant, and the physical and mental man is deranged to the extent that the physical machinery is injured.

The noxious influence of tobacco is more actively operative upon one class of persons than upon others. I may, therefore, for convenience, divide the victims of tobacco into two classes, assigning to the first class all those who do manual labor. These suffer least from fashionable poisons, because the deadening influence of noxious agents upon the nervous system is largely counteracted by physical toil, which strengthens the entire system and conduces to health; and thus it is that active poisons are thought to "kill slowly," and laboring people live long, apparently uninjured and practice poisonous indulgences. In all this great and glorious class of humanity, however, may be found the fruits of tobacco's use, in the form of cancer on the lips and tongue, dyspepsia, constipation and hemorrhoids. But let us consider the other class wherein are included ladies and gentlemen of wealth, of fashion and of leisure, those who live idle as well as those devoted to literary pursuits and purely sedentary occupations. Physicians, ministers and lawyers are of this class, and in all these we find paralysis very prevalent, and that diversified and interminable train of nervous derangements whose name is legion. With constitutions enfeebled by physical inactivity and sensibilities heightened by social and literary culture, consider for a moment the effect upon these highly nervous natures. To all of this priceless portion of humanity the use of tobacco is unmixed evil and rapidly ruinous.

Again, it is affirmed by eminent authority that tobacco is the most prolific, if not, indeed, the only source of delirium tremens.

First, the ancients were entirely unacquainted with these terrible terrors of the inebriate and the records beyond the discovery of tobacco (1560) reveal no case of *mania a potu*.

Second, the normal action of tobacco is the production of tremens, and the most frightful forms of delirium tremens are daily produced by the use of tobacco alone.

Third, it is rarely possible to find an inebriate who does not also use tobacco, and careful inquiry will confirm the statement that, with 90 per cent of such cases, the tobacco habit was first formed. Its influence deranged the nerve centers, an initial tremens was entailed upon the nervous system which suggested to

the morbid taste of the sufferer the soothing sedative action of alcohol, and thus the allied agents forge for each other and fasten more firmly the chains of the servilest slavery.

I have employed professional science to loosen the pillars of tobacco's position, and with authority and with argument have carefully criticised its action and influence on the functions and forces of organic life. Earnestly in this direction I invoke the sober judgment of scientific medicine and when you shall have ordered tobacco to abdicate, then only will it fall from popular use and favor and with that will end the ruin it has wrought.

In view of these truths, scientific and self-evident, in the name of science that classifies all knowledge, in the name of science that seeks the essential nature of things, in the name of science that truthfully interprets the teachings of nature, issue the edict of your eminent authority and drive from popular use and favor this poisonous plague, and when this is secured, a heavenly halo of light, an ineffable effulgence will open up over the poisonous wastes of the world, a broad and bright and beautiful pathway of crimson and of gold wherein garlanded angels will gladly gather proclaiming "peace on earth and good will toward men," and from highest heaven all over the earth shall you cause to be heralded God's emancipation proclamation to a world that is wasting its highest and holiest possibilities in the ruinous, depressing practice of popularized poisons.

INTER-STATE MEDICAL SOCIETY.

The first annual session of the Inter-State Medical Society convened at the Court House in Effingham, Illinois, on Monday evening, July 7th. The Society was called to order by Dr. John Lecrone, President of the meeting. The roll of officers and members was called and the following gentlemen responded: Drs. J. Lecrone, Effingham; W. L. Goodell, Effingham; W. H. Davis, Effingham; W. Thompson, Effingham; Owen Wright, Mason; J. N. Matthews, Mason; H. C. Finch, Watson; T. J. Dunn, Elliottstown; H. N. Drewry, Altamont. The minutes of the last meeting were read and approved. On call of the president the standing committees reported as follows: Dr. Goodell, on surgery, made a verbal statement of his experience in the treatment of "carbuncles." This subject was discussed by all present, and served to show what a vast difference there is in the treatment of this trouble by different surgeons.

Dr. Davis read a paper on the "Bowel Complaint of Children." This received due attention, and was followed by a paper from

Dr. Matthews on "Reflex Action." This paper was ably written and showed a great amount of thought in its preparation. It was discussed for over an hour by the members present; this paper will be again taken up at the next meeting, and it is expected that each member will offer something on this beautiful subject.

Dr. Drewry then read a paper on "Uræmia." The doctor claims this to be the cause of "Bright's Disease," and not to be caused by it as most authors contend; the Society was nearly divided on this point.

The retiring President, J. Lecrone, delivered a short but interesting address, congratulating the Society on its rapid progress and confessing that he enjoyed the meetings better than those of any other society with which he was connected.

Drs. Phifer, of Shumway, and Holland, of Jackson, were admitted as new members.

The following committees and officers were elected for the ensuing year: Dr. Lecrone, President; Dr. W. H. Davis, Secretary and Treasurer; Drs. Wright, Goodell and Davis, publishing committee; Drs. Thompson, Matthews and Drewry, censors.

Adjourned to meet at 8 P. M.

Society called to order by President Lecrone. The following standing committees were then appointed:

Surgery—Dr. Wright.
Practical Medicine—Dr. Drewry.
Obstetrics—Dr. Thompson.
Drugs and Medicines—Dr. Davis.
Diseases of Females—Dr. Dunn.
Nervous Diseases—Dr. Matthews.
Puerperal Eclampsia—Dr. Phifer.

Dr. Goodell was appointed critic for the ensuing year. Dr. J. N. Matthews read an original poem entitled, "Our Profession," which was given to the publishing committee. The Society then adjourned to meet at Mason, Ill., the first Thursday in October, 1879.

J. LECRONE, President.

W. H. DAVIS, Secretary.

JERSEY COUNTY (ILL.) MEDICAL SOCIETY.

The Society met at the office of the City Drug Store, Jerseyville, on August 4th.

Dr. Reynolds, the President, being absent, Dr. Van Horne, the Vice President, assumed the chair.

Dr. Burknap, the Secretary, being absent, Dr. Reed was appointed Secretary *pro tem.*

Dr. Sumrall, from the special committee to wait upon the County Clerk, and investigate derelictions in reporting births, deaths, etc., reported a conference with the County Clerk, and an examination of the records, which elicited the fact that one return had been made and received fifteen days after the time prescribed by law, while in another instance, the date of death had been falsely inserted five days after the time of its actual occurrence, for the purpose of bringing the time of returning the report within the limit of the statute. The Doctor also reported from the special Committee on Legal Registration, stating that he had held a conference with Prosecuting Attorney Goodrich, who gave it as his opinion that it was necessary for recorded physicians of one county to register in neighboring counties where they may habitually practice.

On motion of Dr. Reed, the report was received and the committee discharged.

Dr. Shobe spoke derogatively of the practice apparently prevalent with some physicians, of procuring puffs, etc., in the secular prints, and suggested the propriety of passing a resolution on the subject. The following resolution was then passed:

Resolved, That it is the sense of this Society that when a member finds his name used by a newspaper in any such style as might lead to the inference that he was securing puffs, etc., he will ask the controllers of such paper through the paper, to please cease such publication.

Dr. Du-Hadway, from a committee on prosecution in special cases of violation of the registration act, reported conference with the Prosecuting Attorney, and stated that he had found more than the requisite witnesses—two to each overt act—and that he would proceed. He also reported one or two other cases of violation, after considering which, on motion of Dr. Sumrall, the Society appointed Drs. Du-Hadway, Van Horne and Shobe a standing committee to investigate and prosecute all violations of the registration act, and all irregularities under the same in and about Jerseyville, with special instruction to proceed at once in the prosecution of the particular cases before the Society.

It was then resolved that one member for each represented district be appointed an auxiliary committee on the enforcement of the registration act throughout the county, said auxiliary committee to coöperate with and through the Central Committee just appointed for Jerseyville.

The President appointed Drs. Williams for Otterville, Sumrall for Elsah, Reed for Fidelity, Francis for Delhi, Reynolds for Kane, Briggs for Newbern, and Veitch for Grafton.

On motion of Dr. Reed, the Auxiliary Committee was instructed to make up their cases and hand in their reports to the Central Committee at Jerseyville by two weeks from date, the 19th inst.

On motion of Dr. Shobe, it was resolved to publish the proceedings of this meeting, thus far, in the county papers.

JABORANDI AND PILOCARPIN.—Dr. Reed, from Special Committee on New Remedies, reported some experience with jaborandi and its alkaloid, pilocarpin. He first spoke of the physiological experiments with this drug by Drs. Martindale and Ringer, of London, and MM. Gubler and Robin, of Paris. The former gentlemen used the crude leaves, one of them taking at a draught a decoction from a dram of the leaves, afterwards swallowing the dregs. The effects were very decided, and supervened rapidly. Diaphoresis, so copious as to tax the imagination, was reported, followed by decided prostration with coma. The effects on the sight were noticeable, some objects being hardly distinguishable at a distance of a few feet that were formerly observable at a much greater distance. In twenty observations by Drs. Ringer and Gould, of London, reported in the *Lancet* in 1875, as being made upon eighteen adults, perspiration and salivation were generally profuse, commencing in about fifteen minutes after the administration of a sixty-grain dose. In one case salivation amounted to twenty-seven ounces. In all but one case the pulse was quickened from twelve to forty beats per minute. The average temperature fall was 9° F., with an average duration of a quarter of an hour. There was slight increase of bronchial secretion in some cases. In no instance were the bowels affected. In several cases sight was decidedly affected.

On the latter point Mr. John Tweedy reports his conclusions in the *Lancet* for January 5th, 1875, to the effect that the extract of jaborandi, applied to the conjunctiva, causes, 1st, contraction of the pupil; 2d, tension of the accommodative apparatus of the eye, with approximation of the nearest and farthest points of distinct vision; 3d, amblyoptic impairment of vision from paralytic influence upon the retina.

Dr. Reed had himself taken an ounce and a half of the fluid extract at a dose, with the effect of producing copious diaphoresis and salivation within twenty minutes from the time the nostrum was ingested. The stimulant effect upon the cutaneous an

salivary glands lasted nearly three-quarters of an hour, after which a feeling of decided prostration supervened. That was all. No sickness at the stomach nor influence upon the bowels was noted, while there was no perceptible effect upon the vision. Had never used jaborandi therapeutically, but had used its active principle, pilocarpin, in two cases. In one case there was some hydrothorax following a case of pleurisy. A sixteenth of a grain of pilocarpin was administered hypodermically. In less than ten minutes afterward copious perspiration had set in which kept up vigorously and persistently for more than half an hour, saturating not only the body garments, but the bed clothing too. The pulse fell nineteen beats per minute and considerable prostration ensued, from which the patient subsequently completely rallied. The next morning the exudation had nearly disappeared and by evening it was no longer discoverable. The other case was one of œdematous joints from chronic synovial rheumatism. The same dose was administered, producing about the same phenomena and causing the absorption of the effused liquid in the joints. Would use the remedy as an eliminative in dropsical cases and as a revulsant in the formative stage of pneumonia and other visceral inflammations.

Dr. Sumrall had used the fluid extract of jaborandi with success as a galactogogue. His experience had been confined to one case. The woman was the mother of three children, with neither of whom had she secreted any milk. She was delicate, had bad teeth, bad lungs and bad general appearance. As she approached the delivery of her fourth child her breasts bore no more evidences of giving milk than on previous occasions. There was neither filling of the breasts nor protrusion or discoloration of the nipples. An hour after the birth of the fourth child, he began giving her five drops of fluid extract jaborandi every three hours. The milk-fever reaction came on in forty hours and the secretion was thoroughly and healthfully established in forty-five hours. The remedy was kept up for fifteen days, and discontinued. The secretion has been active ever since, now fifteen months, although the patient had pneumonia last winter. Would state, however, that in the beginning, the breasts were repeatedly anointed with castor oil, in imitation of the Southern custom of applying a poultice of castor bean, for the purpose of forcing the secretion.

Dr. Du-Hadway, from the Committee on New Remedies, reported on *Ustilago Maidis* (corn ergot), stating that he had used it in every case in which ergot was demanded for several months last past, with the happiest results. He had also used it in some cases in which ergot was not called for, just to see what effect it had, if any. He had employed the fluid extract, in from ten to fifteen drop doses, and uniformly got the effects of the rye ergot in from twenty to twenty-five minutes. To produce the same effects with the rye ergot, required a larger quantity and longer

time—from a half to three-quarters of an hour. From experience in a number of parturient cases, would summarize his views as to the comparative merits of the two ergots by stating that the ustilago maidis required a smaller dose, was more prompt in its action, causing more normal conduct of the uterus, and greater regularity of contractions. Could not say as to whether these results were from the effects of the drug or from peculiar coincidences. Had used the remedy in two cases of hemorrhage with success equally as pronounced as he had ever experienced from the older variety. Had used it also in two cases of congestion of the spleen, with success in both instances. In one of the cases the spleen was very much enlarged when the administration of three drop doses fluid extract ustilago maidis every four hours was commenced. In a week the enlarged organ had reduced in size one-half, and in two weeks the abnormal enlargement had disappeared.

Dr. Williams said that Dr. Du-Hadway's use of the ustilago maidis in hemorrhage reminded him of another remedy for the same trouble. He alluded to *warm water in post partum bleeding*. The remedy had been brought to his attention through the writings of Emmett, and he had used it with gratifying results; indeed, he had made it the rule of his practice for several months. There are certain cases of abortion in which portions of the placenta were adherent, and were of necessity retained, and in which the tampon was formerly and is yet sometimes used, to prevent bleeding. While the bleeding was thus only indifferently controlled, there was always, within a few days, a most disagreeable odor arising from the decomposition of the retained portions of the placenta—an odor not more disagreeable than the conditions which gave rise to it were dangerous to the patient. All this was obviated by the use of the warm water, as follows: A fountain syringe, loaded with *water as hot as the patient can bear it*, is so arranged that the tube can be inserted into the vagina by the patient herself, who is arranged on her back, with her thighs elevated so that her hips are higher than her shoulders, and a bedpan under her. The position is such that a portion of the water becomes residual in the vagina, and gravitates into the uterus, into which organ the nozzle of the syringe is not introduced. One or two syringefulls of water will suffice to control the hemorrhage, without ergot or other remedies usually resorted to, while the operation, repeated several times each day for several days, will prevent the formation of the disagreeable odor and its dangerous sequelæ.

Dr. Shobe inquired as to the *modus operandi* of the remedy, as he had always looked upon warmth as being relaxant to tissues, and hence promotive of hemorrhage.

Dr. Reed, replying, stated that the remedy had been a favorite one with his father, Prof. R. C. S. Reed, of Cincinnati, who had used it for a number of years in post partum capillary oozing,

and also in persistent menorrhagia. It was also used in surgery, and he remembered one case in particular—an amputation at the shoulder—in which the flap from the deltoid was but little else than a network of capillaries that had become enlarged by the disease in the parts. The bleeding was persistent and profuse; ligation was impracticable. Water, so hot as to be very uncomfortable to the hand of the operator, was applied, with the effect of instantly arresting and permanently controlling the bleeding. Thought this case afforded a good demonstration of the *modus operandi* of the remedy—occlusion of the bleeding orifices by contraction of the capillary walls and the surrounding tissue, as in the case mentioned, there was decided paleing of the suffused flap.

Dr. Reed then reported a case of *suppurative enteritis* superinduced by congenital malformation of the intestines as follows: The child, two weeks old, manifested more or less abdominal distress from the time of birth; screaming out with pain whenever placed in the sitting posture or bent still further forward. There was marked constipation from the first, efforts at defecation being attended with decided pain. This was corrected and the stools, which were of the potter's clay description, assumed a more natural character under the use of small doses of mercury with chalk. These fits of constipation were recurrent, however, and demanded attention at periods of from one to two weeks. When the child was eight weeks old it was taken with a diarrhœa which was controlled by the usual remedies, but the pain and uneasiness about the bowels continued. The child nursed well and had the appearance of being well nourished, but it now began rapidly to lose flesh. The bowels operated more naturally now until the eleventh day of the illness, when shrieking cries and an almost convulsive effort of the child was followed immediately with appearances of ease and comfort, and in three-quarters of an hour with a copious discharge of pus and mucus from the bowels. There were thirteen similar discharges preceded and followed by the same conduct on the part of the patient. On the fourteenth day of illness the child died from exhaustion. As I had noticed fullness over the liver with tenderness, I had made up my mind to an hepatic abscess that by means of inflammatory adhesions had opened into the alimentary canal; the expulsive efforts on the part of the child being for the purpose of dislodging some mucus or fœcal plug that might be occluding the orifice of exit. A post mortem examination was held thirteen hours after death. Dr. Harris, of Piasa, assisted me. We found the liver natural and so was the spleen. The only abnormal changes were confined to the intestines, the mucous membrane lining of which was in a state of suppuration. The ascending colon was firmly adherent to the exposed capsule of the right kidney and the posterior abdominal wall, by bands of tissue which, from the completeness of their organization, must have

been congenital and not of inflammatory formation. Indeed, there had been no abdominal swelling, tympanites or pyrexia, the temperature at no time exceeding 99.5°. The adhesion of the colon is sufficient to explain the pain on assuming the sitting posture and the cause of the inflammatory trouble, each stretching of the gut being a fresh aggravation.

Dr. Williams reported two interesting cases of *puerperal eclampsia from irritable os* as follows: Was called some time ago in consultation with Dr. Veitch, of Grafton, to see a woman whom the doctor had successfully delivered of a healthy child. There was, however, a fragment of placenta retained. This the doctor attempted to remove by introducing his finger into the uterus, but no sooner had he touched the os than the patient flew into a most violent paroxysm, from which she was rescued but with difficulty.

Some time subsequent I was called to attend another woman in her confinement. She had been under observation for some time, and from her appearances had been led to apprehend eclampsia. Her labor, however, progressed favorably until the waters broke and the head became fairly engaged in the os when she gave a sudden scream, her eyes becoming fixed and her muscles rigid. Was just prepared to resort to venesection when she regained consciousness and vigorously protested. As the spasm had apparently passed off I did not persist. Another pain, however, soon came on and brought with it a repetition of the phenomena, which suddenly and permanantly subsided as the head was pushed through the os a few seconds later. The history of the two cases point to irritable os as the pathological condition of puerperal eclampsia.

Hysteria from a Torpid Liver.—Dr. Shobe was just reminded of convulsion in a pregnant female. Was called hastily to see her, and found her surrounded by anxious friends, who were apprehensive that death was impending. It took but a moment to perceive that the phenomena were of a hysterical character, and much aggravated. On inquiry, ascertained that she was about five months gone in pregnancy. Prescribed the usual antispasmodics, and left. Summoned the next day, and found her not better, but worse, if anything. Careful examination revealed an enlarged liver. The bowels were constipated. In the absence of anything else, gave a blue pill; it acted like a charm. The secretions were aroused, the bowels relaxed, and the spasm subsided. Was summoned two weeks afterwards, and found her in the same condition as before—spasm, enlarged liver, and constipated bowels. A blue pill did the work again. She now keeps a stock of blue pills on hand, and takes one whenever her bowels become languid and her discharges assume a potter's clay cast. The torpid liver acting in a reflex manner upon the over-sensitive gravid uterus, was the probable cause of the disturbance.

CHAS. A. L. REED, M. D., Secretary *pro tem.*

Clinical Reports from Private Practice.

DIPHTHERIA IN WHEELING. By HALLAY MCCOY, M. D., A. M., Wheeling, West Va.

Our city being now severely scourged by diphtheria, I desire, through the pages of your valuable JOURNAL, to give to the profession a mode of treatment which I have recently adopted and am still prescribing to the exclusion of almost everything else.

I have been engaged occasionally for the past forty-three years in the treatment of *pseudo-membranous* sore throat, or diphtheria, and during my long medical experience it has been my misfortune to be confronted, at times, by a malignant type of this disease, which, despite the diligent application of the best remedial means known to myself or my contemporaries, a large percentage of cases proved fatal; and the prevalency at this time of such a type of diphtheria in this city has induced me to give publicity to a mode of treatment which I have recently adopted, and which, under my observation, has been productive of encouraging and satisfactory results. My time and opportunities for testing the efficacy of this mode of treatment has not been sufficiently long, nor my cases sufficiently numerous, to establish a principle in practice; but deeming them of some importance, I hereby invite the attention of other observers to this mode of treatment, leaving it to more extended observation to either confirm or refute my opinion of its value. *Magna est veritas et prevalabit.*

My observations include thirty-six cases occurring in this city during the present visitation, ranging from the nursing babe of eleven months to the adult of twenty-two years of age, and including symptoms mild, severe, and of the utmost gravity, both constitutional and local. In some of my cases treatment was instituted on the first day of the attack, in some on the second and third, and one after the fifth day of the disease. I cannot say that in any case I was able to regulate the disease, but I think I was able very materially to shorten its duration and assist in piloting the patient through the breakers into the port of convalescence and ultimate recovery. My treatment, which I shall designate the *antiseptic treatment*, is both constitutional and local.

On being called to a case of diphtheria, I usually mop the throat very thoroughly with equal parts of a saturated solution of ferri per sulphas (Monsel's solution) and glycerine. This I repeat *pro re nata;* I also order a thin slice of fat pork to be kept applied externally. This I regard as superior to any other

external application and I have it continued till convalescence is established, or until pustulation is effected, and I direct the following constitutional antiseptic treatment:

℞ Acidum sulphurosum.....F. ℥vj.
Syrup simp, qs. to make.....F. ℥ij.
Of this I give F. ℥i every hour or two.

In this manner I have treated thirty-six cases without the loss of one, in the midst of an epidemic yielding a large percentage of fatal cases, and these, many of them, at least, treated by learned and experienced, and consequently skillful and competent practitioners.

GANGRENE OF SCROTUM FROM EXTRAVASATED URINE. By D. H. DICKINSON, M. D., of Deadwood, D. T.

Coners, aged 35, Irish, admitted to the hospital. He was suffering from retention of the urine, with the following history: Three months before his admission he applied for treatment to a neighboring physician for retention of water; after several attempts to introduce a catheter without success, he dismissed him with some diuretic, and instructions to take warm hip baths, which was done with some relief temporarily. From this time on he has been a great sufferer.

I found the following symptoms present: The pulse 130, temperature 105°; delirious, bowels constipated, tongue dry and brown, rigors occurring frequently; skin hot and moist, emitting a urinous odor; no appetite, with great thirst. The scrotum about as large as a cocoanut and black, showing no circulation. The right inguinal region contained an abscess which discharged about one pint of very offensive pus upon opening. I made several free incisions into the scrotum, giving exit to quite a large quantity of pus mixed with urine. The line of demarkation had commenced to form between the gangrenous mass and its attachments to the healthy skin, involving the entire scrotum.

Upon attempting to pass a No. 6 catheter (silver), I found obstructions that I was only able to pass with a fine filiform bougie (Gouley's); I ordered a mercurial cathartic, to be followed with beef tea, milk punch, iron and quinia in tonic doses.

Dec. 20th.—The temperature 103°, pulse 100, bowels open. He had rested well, was not delirious, but very weak, with rigors still present, urine escaping through openings in the scrotum, none passing through the natural channel. The symptoms of uræmic poisoning were very prominent. I at once commenced to dilate the stricture or strictures that I found to be

present, the original cause of all his suffering. Commencing again with filiform instrument, I succeeded in passing them, up to No. 4 before leaving. The abscess in groin discharging large quantities of fœtid pus. Tonics still continued, with opiates to relieve pain.

Dec. 21st.—The pulse 100, temperature 101°, bowels constipated, tongue not so dry, skin moist, urinous odor still present, some nausea, appetite poor, has passed some water through the urethra. Scrotum partially detached on one side; had him put under chloroform for the purpose of removing the entire mass, which I did, leaving the testicles entirely bare. I then ordered the treatment continued as before.

Dec. 31st.—The pulse 90, temperature 98⅘°, bowels inclined to be constipated, tongue moist, skin normal, having lost its unpleasant odor, appetite better, sleeps well; I continued gradual dilatation until No. 16 catheter could be introduced easily, granulations springing up all over; testicles looking very healthy; abscess in inguinal region still discharging some pus of a laudable character; introduced grooved sound into urethra for guide, and then fastened the sides of fistulous opening, which was present in the membranous portion of urethra, with external opening along side of the septum of the scrotum, then introduced a No. 10 silver catheter and fastened it *in situ*.

Jan. 15th, 1879.—Find the patient still improving; testicles nearly covered with healthy skin; the abscess in groin completely healed over, but fistula still intact, owing to non-retention of catheter, which he stated caused him great pain. I had him again placed under chloroform and refreshened the walls of fistula, also slitting up several sinuses that I had found. I then cauterized the whole tract with nitrate of silver, and ordered the catheter to be introduced three times daily.

Feb. 20th.—Patient was discharged cured, with a complete, new scrotum. My reason for calling the attention of the profession to this case is, to show how far conservative surgery may be carried, often to the great benefit of our patients. I should have certainly removed the testicles in this case when I first operated, but considered from the symptoms that my patient would not long bother us, and would let him go intact as near as possible. I simply removed the gangrenous mass for cleanliness, but to my surprise he began to improve rapidly and I then determined from the condition of the parts, that with a little help in the way of skin grafting, I should be able to supply him with a new scrotum, the result of which we have seen.

After having several years experience in mining camps, where surgery is our principal practice, I am fully satisfied that we too often resort to the knife when a more conservative course would add largely to the comfort of our patients, and also, I believe, to our own professional reputation, although to say we amputated in given cases, sounds well for us in the ears of outsiders.

FORTY-EIGHT HOURS OF BLINDNESS AT THE PARTURIENT PERIOD.

By J. J. M. ANGEAR, of Fort Madison, Ia.

Late in the evening of the 20th day of March, '77, a young man from the country called upon me for a prescription for his brother's wife, stating that in the morning she became blind, and was no better when he left.

Being guided by the truth—that disturbance of vision at or near the time of parturition is the forerunner of puerperal convulsions—I inquired if she was pregnant. Being answered in the affirmative, I made further inquiries, and was informed that she was not expecting to be confined for some weeks. I refused to give a prescription, and stated that I must go and see her.

On my arrival I found the patient perfectly well, save the fact that she was so blind as to be unable to tell whether the lamps were lighted or not. She had been in this condition some twelve or fourteen hours.

By making a digital examination per vaginum, I found the uterus low in the pelvis, but no dilatation of the os, and a complete absence of pains, and no evidence of uterine contraction. Fearing convulsions, I decided to bring on contraction and hasten delivery, if possible. To this end, I ordered a hot setz bath, and kept her in it some fifteen or twenty minutes, occasionally adding hotter water to the bath. On returning her to bed I discovered the os dilated nearly as large as a dollar. The pains soon followed, and a fine, healthy child was born in due time.

At the expiration of twenty-four hours from the time I was called she could tell when the lamps were lighted, but could not discern objects until the expiration of another twelve hours; thus making at least forty-eight hours of blindness, with no other abnormal symptoms, after which she and her child did well.

Correspondence.

MEXICO, Mo., Sept. 2d, 1879.

EDITOR JOURNAL:—Among the many articles of great merit which have emanated from the pens of your contributors none, perhaps, have attracted the attention of as great a number of physicians, as the articles in the last two issues in regard to the use of the obstetric forceps.

Both sides of the question having been so elaborately, deliberately, conclusively, and ably presented by Dr. Maughs and Dr. Boisliniere on the one side, and Dr. Thomas Kennard on the other, that it is unquestionably true, that those who have been so averse to the use of forceps will be encouraged and influenced to use them when necessary and proper so to do, and those whose enthusiasm in their use, has outrun their judgment, will be pursuaded to diminish the improper use of this valuable instrument. To we country practitioners such able productions upon subjects of such great interest and importance, can but be of incalculable value and benefit.

Without intending to convey the impression that the physicians of this vicinity are not keenly alive to every advancement in the profession, I will state that the views as expressed by Dr. Kennard have decidedly the greatest number of advocates here.

It would appear to the faculty here, who are over one hundred miles from the scene of this scientific warfare, that the St. Louis physicians had injustice done them, by either Dr. Boisliniere or Dr. Maughs, or both.

Dr. Boisliniere said: "The last report of the Health Department (of St. Louis) shows the number of children born dead, 467; immediately after birth, 100; in all 567 dead born infants. What does this mean? Was it not in the great majority of cases the result of ignorance and neglect? How many could have timely assistance saved? Perhaps nineteen out of twenty, because this is the proportion of vertex presentations to all others."

We might be lead to think from this statement that the majority of St. Louis physicians were either ignorant of their duty as accoucheurs or were culpably negligent in the execution of those duties. I would probably have attributed a large number of those deaths to the attendance, at birth, of ignorant midwives were it not that we are told by Dr. Boisliniere, "These

children were allowed to die because *Doctors* were influenced by the teachings of a retrograde midwifery."

Dr. Maughs, in his grand production, speaking of the death many years ago of her Royal Highness Princess Charlotte said, "Had her Royal Highness been an obscure pauper in the darkest alley in St. Louis and attended by any well informed first course student, she would have been delivered with the forceps on Tuesday, and had her attendant been a physician of any experience she would have been thus delivered on Monday night and her life and that of her child saved."

After reflecting upon this statement, together with the one just quoted from the remarks of Dr. Boisliniere, there is certainly room for the conclusion that the majority of the St. Louis physicians were unable to perform the duties pertaining to the office of an obstetrician as well as a first course student who was well informed, or that they possessed no experience whatever, or we would not have the mortality thus presented.

It is a great pity that such men as those engaged as leaders in this discussion, men of true courage, giant intellects, who stand pre-eminent in the profession, men of whom we all very justly feel proud, should so far forget themselves as to indulge in such epithets as "trusting owls, wise owls, indecisive fools," and the like, when having reference to the acts or words of some of our most distinguished and gifted predecessors. It is a shame that it has occurred, and in this connection do I concur most fully in the remarks made by Dr. Boisliniere when referring to Dr. Kennard's attacks upon the obstetrical profession.

While Dr. Kennard has emerged from this discussion all covered with honor and distinction, it is to be much regretted that the injection of this seeming personality has to any degree marred the value of his great production.

I was gratified to notice that Dr. Kennard laid deep stress upon the importance of that great practical truth which ought to be driven into the mind of every physician, viz., that in his action he should do that that is right and good in utter disregard for self. How our profession would be ennobled were all its members to strenuously work upon this principle. It constitutes the very essence of all that is great and good in a physician.

Let me have the JOURNAL as long as you have a St. Louis Medical Society.

Yours truly, PINKNEY FRENCH.

Book Reviews.

DISEASES OF THE THROAT AND NASAL PASSAGES. A GUIDE TO THE DIAGNOSIS AND TREATMENT OF AFFECTIONS OF THE PHARYNX, ŒSOPHAGUS, TRACHEA, LARYNX AND NARES. By J. SOLIS COHEN, M. D., Lecturer on Laryngoscopy and Diseases of the Throat and Chest, in Jefferson Medical College, etc. Second edition, enlarged and revised; pp. 742. [New York: William Wood & Co. 1879.]

In presenting this large and carefully prepared work, the author has done much for the cause of specialism. The American members of the department to which he has devoted so much energy, are honored in that one of their number has produced a treatise second to none. European laryngologists will constantly refer to Dr. Cohen's book, not alone as an index of progress in the new world, but as the result of patient examination of the literature relating to his subject in all languages. To the general practitioner the chief value is that aside from scholarly research, our author speaks from large experience and does not overload the text with the burden of theory. So much additional labor has been given to this volume that it is almost—except in name—a new work rather than a second edition of one already known.

The special and relative conditions in disease of the throat form the subject of chapter I. Very briefly the author points out the liability of the mucous membrane of this region to inflammation, the tendency of inflammation to recur, the hygienic treatment necessary in, and the value of laryngoscopic examination of cases of throat lesion. In the next chapter the various methods of examination of the throat and nasal passages are presented. In this there is more than mere direction, valuable suggestions are offered concerning individual cases, and deductions made from the experience of others. The different ways of making examinations are well illustrated and carefully described.

"Sore throat" is the unpretentious title of the third chapter, which includes sections on "acute sore throat," "phlegmonous sore throat," "ulcerous sore throat," "the sore throats of the exanthemata" and "simple or common membranous sore throat." "Sore throat" is good in popular parlance, but in a classical work, such as this undoubtedly is, it does not merit a place in the nomenclature of diseases. There is a safe line midway be-

tween tiresome technicality and labored plainness. Without the space to criticize this chapter minutely, we can say that if the rest of the book were but blank pages, it would still be a valuable investment.

The section devoted to diphtheria is fully up to the times and is enhanced by well founded conclusions from personal experience. Our author is a champion for the "non-identity of croup and diphtheria." While we do not believe that his position is impregnable, there is no doubt but that he guards his cause well. The treatment recommended is such as would naturally follow the idea that chief among the important objects in treatment is "efficient sustenance of the patient and the prompt discharge of the morbid products as they accumulate." There is no specific.

Chronic sore throat in its various forms receives careful attention. In every degree chronic pharyngitis is a troublesome condition to treat successfully, though by perseverance most of these cases should do well. Cohen urges that persisting and care will often effect an entire cure and indicates many variations in treatment for such complications as frequently arise. We wish that our author had been more emphatic and less diffuse in his enumeration of therapeutical agents here. Between thirty and forty from first to last in this chapter, cannot but confuse him who, baffled by obstinate cases, turns to these pages for advice. We remark that our author all through his book, by aiming at completeness, depends much upon the judgment of his readers as to choice of remedies and methods of local application.

Passing over the chapters on special affections of the pharynx, tonsils and œsophagus, we come to one of the most important in the book—affections of the nasal passages. This is exhaustive and complete to date. Cohen adds his testimony to the evidence already adduced, as to the efficacy and harmlessness, when properly used, of Thudicum's nasal douche in cases of chronic catarrh, and the pages are replete with directions for treatment. The subjects of chronic catarrh are pre-eminently subjects of the various diatheses, and the manifestations of the disease are sometimes characteristic of the constitutional taint. The materia medica of this chapter is very full.

The author is certainly at home while discussing the subjects of acute and chronic laryngitis. In the former, though nothing new is added, yet there is seen on every page the result of labor and prudence.

Among the several sections given to the varieties of chronic laryngitis we notice "tubercular laryngitis." This is much more definite than "the chronic laryngitis of phthisis" is in the former edition. The author is careful to state that cases of laryngeal complication in phthisis are not all due to tuberculization, but are often catarrhal, and that "this laryngitis is amenable to treatment and is to be carefully distinguished from tubercular laryngitis, on the score of efficient prognosis and the liability of

indiscreetly crediting therapeutic measures with remedial powers that they do not possess." Though tracheotomy is referred to as a possible indication, it is "only justifiable to ward off asphyxia from œdema," etc., and rarely "for the mere purpose of setting the larynx at rest." Recent reports by Elsberg and Robinson throw some doubt upon this position. Though as it is yet a matter of experiment, Cohen has certainly a well-earned right to speak from experience. However, our author asserts that in some cases of syphilitic laryngitis this operation is "justifiable for the mere purpose of securing rest to the organ." The context harmonizes this seeming contradiction.

In a book so large as this one, eight pages is little enough in which to present so important a subject as syphilitic laryngitis. Yet the author has said all that is really pertinent and stopped. We like him all the more for it.

Cohen's contributions to the literature of morbid growths of the larynx have been numerous and valuable. The consideration of laryngeal neoplasms is up to the high standard elsewhere shown. We were not quite prepared, however, for the statement that we may "suspect a syphilitic origin in all cases of growth whenever there is no other assignable cause," even if it be "in a patient who has already suffered from syphilitic poisoning, especially if the remoter symptoms have been manifested in the throat."

Space forbids a minute mention of the many excellencies of Cohen's latest work. As a text book it is orthodox, as a book of reference it is very full, as a resumé of special science tempered by large personal experience, it is all that could be asked for. May we add that throughout the whole treatise is a spirit of fairness and candor. In these days of progression, when the known is encroaching so rapidly on the unknown *meum* is too often arrayed against *tuum*, and only recently a painful exhibition of impotent rage disfigured an otherwise handsome volume. Not so here. From cover to cover the author has naught but kind mention even when dissenting from opinions quoted. Both he and his book will be held in high esteem wherever the light of the laryngoscope is reflected.

The mechanical part is perfect in all its requirements, as would be expected of Wm. Wood & Co.

WM. PORTER.

A CLINICAL TREATISE ON THE DISEASES OF THE NERVOUS SYSTEM. By M. ROSENTHAL, Professor of Diseases of the Nervous System, at Vienna. [New York: Wm. Wood & Co. 1879.]

This is one of the series of twelve volumes published by the above named popular medical publishers.

The book, after having been translated into French by the

illustrious Charcot, is now presented to the profession in America by L. Putzel, M. D., Physician to the Class for Nervous Diseases, Bellevue Hospital, Out-door Department, and Pathologist to the Lunatic Asylum, Blackwell's Island.

Charcot presents the book "to its new circle of readers, mindful of the service it has rendered him in his teachings," and thinks "Dr. Rosenthal's work appears to justify, in great part at least, its title of "*Clinical Treatise.*" "The subject," he says, "could hardly have been arranged more harmoniously, nor could the pathological descriptions appear in more vivid and striking color."

The preface of Charcot bears date of September 15th, 1877, and the impress of a disposition to give the book a favorable introduction, while remaining non-committal as to any special excellencies. Thus this eminent authority says: "Dr. Rosenthal's work presents itself to our notice with strong claims to our esteem. It is called upon to fill a gap in our literature;" but he nowhere specifies what those claims are, or what gaps have been filled by it, except to say, "The portion devoted to treatment is not the least interesting. The author has long been known to have paid special attention to the study of medical electricity, and *useful* indications are found in his work, both for diagnosis and treatment, even to citizens of a country which numbers Ducheune, of Bologne, among its representatives. But we should pay especial attention to the rules laid down for the employment of hydro-therapeutic measures. * * * * * Hydro-therapeutics should enter more and more into the treatment of chronic diseases of the nervous system, in which it must be regarded as one of our most powerful resources."

The preface of Charcot has the appearance of "damning with faint praise," though such as the following might be regarded as intended for saving clauses: "The erudition displayed in Dr. Rosenthal's treatise does not recognize the boundaries of country. * * * We will find in this work, which is not deficient in original observations, a concise but complete exposé of important researches upon various questions in nervous pathology by L. Tuerck, Benedikt, Meynert and other authors of the Vienna school."

The book is good enough for the price, one dollar, but it is a little out of date, none of its references being later than 1874—'75–'76, and it is altogether too deficient for a complete treatise on the diseases of the nervous system to-day. While it is not an unsafe guide, so far as it goes, it does not go far enough, even for the practical purposes of the general practitioner of the present day.

The book makes no allusion to the recent remarkable progress in cerebral localization, and is totally eclipsed in this regard by the lately published lectures of Charcot, the writings of

Femir, and the more restricted but less recent work of Bastian, which appeared in 1875.

The author's description of locomotor ataxy is such as would probably enable the physician to recognize it in most instances, but it might put him on the wrong track in others. The characteristic jerking ataxic gait is not dwelt upon; on the contrary, the author says, "In walking, the foot does not disengage itself from the ground." The author seems not to have heard of the "tendon reflex" phenomenon, to which Erb and Westphal first and simultaneously called attention in this disease in 1874, in the *Archives for Psychiatry*.

The author's views are sound enough in regard to the causation of locomotor ataxia, but unwarrantedly meager for the present day in regard to its proper treatment, and too much significance is given, here as elsewhere throughout the book, to hydrotherapeutics. The author rides this hobby into such deep water that we fear he has drowned his horse, notwithstanding he says "Everything depends upon a cautious and circumspect application of the method." (P. 259.)

The subject of encephalic tumors is discussed very well in the light that shone upon the author at the time the chapter was written. The attempt, however, to make the "absence of physical disorder" a differential diagnostic sign of cerebellar tumors is neither clinically nor physiologically sustained, in view of the sympathetic and concomitant vascular disturbance in the cerebral lobe, when disease exists in the cerebellum. The disappearance of the psychic disorder under treatment addressed to the vaso-motor system, along with persistence of the occipital pain, is, however, a significant sign, which the author does not note, nor in fact any other that we know of.

Cerebral hyperæmia is too meagerly treated. In explanation of the demonstrable variability of the cerebral circulation the author makes no reference to the perivascular spaces discovered by Robin in 1855, and so beautifully illustrated after Fothergill in McLane Hamilton's new book on nervous diseases. In fact, the book is quite as deficient in illustrations as it is in the number of subjects which should appropriately come under the attention of the neurologist.

The subject of cerebral tumors and general characteristics of cerebral diseases constitute the best chapters in the book. Nearly all the other subjects, hyperæmia and anæmia of the brain, especially, are entirely too briefly treated.

We have noted but a small portion of the defects of this book. It would be unfair to disparage it further when the price at which it is offered is borne in mind. But it cannot take the place of any of the kooks on the same subject now acceptable to English readers. No one who has either Zeimssen, or Althaus, or McLane Hamilton's treatise in his library will need this book. The novice in neurology who has none of these may read it profitably.

If this book has been "called upon to fill a gap" in French literature, as M. Charcot, in his preface asserts, then we have read recent French neurological literature in vain. At all events, no such gap as the book may fill in France now, needs filling in this country.

The book was profitable reading six or seven years ago. Its historical references are still valuable, and it yet contains much useful matter, concisely presented and free from fanciful or untenable theories, but it were just as well had it been permitted to remain untranslated. The translation of a book, unlike that of Elijah of old, does not necessarily prolong or give new life.

The book, however, might still receive such additions to its text as to make it a fair companion for the now better works of the same kind before the American medical public. We discover no views in it that are absolutely heterodox or exploded. It is less objectionable on account of what is contained within its covers than because of what is there omitted, and the reader will be less disappointed in the kind than in the quantity and variety of its matter.

C. H. HUGHES.

CONCLUSIONS FROM THE STUDY OF ONE HUNDRED AND TWENTY-FIVE CASES OF WRITER'S CRAMP AND ALLIED AFFECTIONS. By Geo. M. BEARD, M. D., of New York. Reprinted from the *Medical Record*, March 15, 1879.

During the past few years Dr. Geo. M. Beard has been specially investigating the disease known as writer's cramp and affections allied to it.

These investigations have been pursued by the study of cases in his practice; by conversation and correspondence; by consultation and by circulars of inquiry extending to England, to Germany and Australia.

The following are his conclusions:

First, The cramp is but one of a large number of the symptoms of this disease, and no two cases are precisely alike. There are at least fifteen or twenty other symptoms.

The cramp is oftentimes one of the later symptoms, and bears much the same relation to the disease that the symptoms of the ataxic gait bears to the disease locomotor ataxy. In some cases there is no cramp from first to last, and in all cases the cramp is preceded or accompanied by other symptoms.

The list of symptoms is as follows: 1, Fatigue, exhaustion; 2, dull, aching pain; 3, nervous, irritable feeling, general nervousness; 4, trembling, unsteadiness; 5, cramp, spasm, jumping, twitching, rigidity, contraction of muscles (in some cases the pen is involuntarily hurled at a great distance, as across the room); 6, stiffness and tightness; 7, powerlessness, helplessness; 8, numbness, areas of anæsthesia, tingling; 9, neuralgia; 10, burn-

ing, stinging, dancing, prickly feeling; 11, soreness; 12, throbbing and swelling feeling; 13, thrilling, running, electric sensations; 14, tightly-bound feeling of wrist; 15, coldness; 16, abnormal sensitiveness to touch or cold, or mental influences; 17, disinclination to write; 18, slowness in writing; 19, itching; 20, perspiration; 21, temporary aphasia; 22, dryness of the joints; 23, swelling of the wrist and hand; 24, actual paralysis; 25, abnormal grasp of the fingers on the pen-holder or pencil—a very common symptom; tendency of the fingers, especially the middle one, to slip out of their places on the pen-holder, creating a desire by the sufferer to moisten them to prevent slipping; bearing down on the paper with unnatural or unusual pressure.

Many of the above symptoms extend to the forearm, arm, shoulder, neck, to the opposite arm and over the whole body. The term writer's cramp is the worst possible misnomer; the disease has been most imperfectly understood in medical literature. It is wise, however, to retain the term, for in the present state of our knowledge no term capable of including precisely and exhaustively all the phenomena of the disease can be suggested.

Second, in the other forms of professional cramp, as that of telegraphers, muscians (violinists, organists, pianists, harpists), sewing-women, painters, artists, dancers, hammer-palsy, and so forth, the cramp is but one of a number of symptoms, and by no means always the most important symptom; and, as in writer's cramp, there is frequently no cramp at all from the beginning to the end of the disease. There is no one symptom of the disease that can be said to be diagnostic.

Third, this disease is primarily a peripheral and local disease of the nerves and muscles; secondarily and rarely it becomes central and general, or it may result from various central lesions; and it may affect any point between the extreme periphery and the center."

This view of the pathology is a compromise between the old view that it was central, and the theory of Poore, of London, that it was purely peripheral. There is no question that in some exceptional cases the disease extends to the centers.

The detailed pathology of writer's cramp is complex; in some cases there is neuritis, which may affect a single nerve-branch or several nerve-branches, and may be restricted to the fingers and hand, or extend up the forearm and arm; then the muscles may be merely exhausted—chronically fatigued—or with a tendency to spasm and contracture. The worst phase of the disease that Dr. B. saw was in 1874, with Dr. Brodie, of Detroit; in that case the arm was drawn over to the back, and held firmly there by the contracted muscles; the patient was unable to use his hand for any purpose, and also suffered great pain.

"Fourth, this disease occurs mostly in those who are of strong, frequently of very strong, constitutions, and is quite rare in the nervous and delicate; and when it does occur in those

who are nervous, is easier relieved and cured than when it occurs in the strong.

This fact is not peculiar to writer's cramp, but applies to other nervous diseases, as impotence, muscular atrophy and ataxy. I see every day, cases of nervous exhaustion (neurasthenia) in its various forms, and quite rarely do I see writer's cramp in them; and when they do have this disease, it is mild and curable. I have successfully treated a number of these cases.

Fifth, this disease is less likely to occur in those who do original work than in routine workers. Writer's cramp has followed a single task of long copying.

Sixth, this disease, like all nervous diseases in this country, diminishes in frequency as we go South. In the Gulf States writer's cramp and maladies allied to it are very rare.

Seventh, writer's cramp is not an incurable disease. In the early and forming stage, especially, it responds to treatment quickly, and in many cases, permanently.

In all these cases the prognosis is better in nervous and delicate patients than in those who are phlegmatic and strong.

Lastly, the treatment of writer's cramp and affections allied to it consists:

1st. In the use of electricity locally applied. Both galvanic and faradic currents may be used—preferably the former.

2d. Electricity and hypodermic injections combined have made an epoch in the treatment of writer's cramp.

3d. The internal use of calabar bean, ergotine, iodoform, and in some cases of nerve food, as oil and fats. It is useless, in the majority of severe cases, to dally with mild remedies or ordinary tonics.

4th. *Massage*, or systematized kneading and manipulation of the muscles, with friction, and pinching, and pounding of the skin, and passive movements of the joints, large and small, as employed by Dr. Douglas Graham, of Boston.

5th. Dry heat and dry cold, by rubber bags containing hot water or ice. These may be used alternately.

6th. The actual cautery and very small blisters to the upper portion of the spine, or along the course of the affected nerves and muscles.

Among the hygienic devices for the relief and cure of writer's cramp are:

1st. A ring pen-holder, so as to relieve the thumb and fingers, a device by which one of his patients cured himself.

2d. The use of large pen-holders, so that the muscles may be less restricted; fastening a piece of sponge to the pen-holder, so as to relieve the pressure of the fingers, holding the pen between the different fingers, thus relieving the thumb and finger.

3d. The use of quills and very flexible pens, and with very broad points, so as to run easily like quills. The use of the lead pencil is also a very great relief.

4th. Frequently changing the pen and the pen-holder and style of pen, so as to change the mode of action of the muscle. Dipping the pen for ink doubtless saves many of us from writer's cramp.

5th. Changing the position in writing, as from sitting to standing, or holding the paper in the lap. These methods of relief are to be commended, especially for those who are just beginning to have symptoms of the disease, who are yet in the stage of exhaustion.

6th. The avoidance of faulty and painful methods of writing, and the study of easy, natural methods. A person who writes a cramped and stiff style, no matter though it be a legible one, is a fair subject for attack, especially if writing occupies most of the time.

7th. Writing with the left hand. Out of eighteen cases that tried this plan, three failed utterly, six were partially successful, and nine were completely successful.

8th. The use of various gymnastic and athletic exercises, as rowing, paddling, etc. In some cases the sufferers are unable to do many other kinds of work; carrying bundles or turning door knobs hurts them just as writing does; but such cases are exceptions."

A very good, but needlessly specific paper on this subject. *Ars longa vita brevis.*

The doctor has found a phenomenal form of this interesting affection, which he designates as *counting money cramp*—a form of the disorder not likely to become prevalent, unless perchance it be discovered among those who handle the money of corporations; in fact, his case was that of a lady Treasury Clerk in Washington. The Doctor does not note the general absence of professional cramp among women.

All writers on this subject in this country agree with Dr. Beard in regard to the curative value of electricity. All differ from him in regard to the necessity of rest. "Rest, and atropia hypodermically," says Vance. "Rest and electricity," says McLane Hamilton. "The best results I have ever had," says Beard, "have been when my cases have kept right along with their occupation with the aid of mechanical appliances."

It will be encouraging to a great many who read after Dr. Beard to know that Scrivener's palsy is the penalty in most instances of legible writing. The surviving Horace Greeleys may become insane, but they will never get writer's cramp.

Dr. Beard has also found a sort of O'Leary idiot among chirographers, who tried, for a wager, to make a million of up and down strokes with a pen in a month or less time, with the result of a swelled wrist and hand; severe pain, and an attendant at hand to constantly apply cold water and lotions.

The paper is well worth reading, and extends over four pages of the *Medical Record.* We present only a synopsis of its chief

features, and for brevity's sake, have taken some liberties with the author's language and style. Dr. Beard deserves the thanks of the profession for his labors on the subject.

C. H. HUGHES.

A TREATISE ON HYGIENE AND PUBLIC HEALTH. Edited by Albert H. BUCK, M. D., American Editor of Ziemssen's Cyclopædia of the Practice of Medicine, etc. In two volumes 8vo, pp. 792 and 657. [New York: William Wood & Co. 1879.]

These two large volumes are edited by the American editor of Ziemssen's Cyclopædia. At the time that this cyclopædia was translated, it was thought advisable to omit that which related to the subject of public health, as Ziemssen's book treated the subject from a German standpoint, which was materially different from that which existed in this country. It was then believed by Dr. Buck and others that a treatise on private and public hygiene, written with special reference to the different climates, conditions of soil, habitations, modes of life and laws of the United States would meet with favor, not only among the subscribers of the Cyclopædia and physicians generally, but also among the educated classes. The contributors to volume I, are Drs. A. B. Ball and A. Jacobi, New York City; John S. Billings, Surgeon, U. S. A., Washington, D. C.; F. H. Brown, D. F. Lincoln and Prof. W. R. Nichols, of Boston, Mass.; Wm. H. Ford, A. V. Harlingen and J. Tyson, of Philadelphia, Pa.

The list of contributors to volume II, are Drs. B. McE. Emmett, Allan McL. Hamilton, Frederick R. Sturgis and Roger S. Tracy, of New York City; Thos. B. Curtis and D. F. Lincoln, Boston, Mass.; S. S. Herrick, New Orleans, La.; Thos. J. Turner, Washington, D. C.; S. O. Vander Poel, Albany, N. Y.; Rossiter W. Raymond, Ph. D. and Elwyn Waller, Ph. D., New York City; Chas. Smart, M. B., Ass't Surgeon United States Army, Fort Preble, Portland, Me.; Henry C. Sheafer, Coal Editor of the *Miner's Journal*, Pottsville, Pa., and Stephen P. Sharples, S. B., chemist, Boston, Mass.

The introduction of this work is written by Dr. Billings, of Washington, and occupies seventy-four pages. Part I of volume I is taken up with individual hygiene, and the first thing treated is the Hygiene of Infancy. This part is written by Dr. Jacobi, a man well known to the profession. He has treated this work very thoroughly and almost exhaustively. He commences his subject with the new-born infant and ends it in speakimg of the age of schooling. Dr. Tyson then takes up food and drink. With this he occupies sixty-six pages. Then follows Professor Nichols on drinking-water and public water supplies, occupying one hundred and seventeen pages. Dr. Ball then treats of physical exercise, occupying fifty-three pages. The care of the person, including baths, cosmetics, clothing, beds, the mouth and

hair, occupy thirty-nine pages. This is written by Dr. Harlingen and ends part I.

In part II the subjects of the soil and water, the atmosphere, and the general principles of hospital construction are treated by Drs. Wm. H. Ford, D. F. Lincoln and F. H. Brown, respectively.

Volume II is also divided into two parts. The Hygiene of Occupation is written by Dr. Tracy; the Hygiene of Camps by Chas. Smart, Assistant-Surgeon U. S. A.; the Hygiene of the Naval and Merchant Marine is written by Dr. T. J. Turner, Medical Director U. S. N.; the Hygiene of Coal Mines is written by Henry C. Sheafer, Coal Editor of the *Miner's Journal*, Pottsville, Pa.; the Hygiene of Metal Mines by R. W. Raymond, Editor of the *Engineering and Mining Journal*, New York City. This ends part I, and all that is said on Hygiene.

Part II is taken up in treating of public health, including Infant Mortality; Vital Statistics; Adulteration of Food; Public Nuisances; Quarantine (with reference to seaport towns); Inland Quarantine; Small-pox and other Contagious Diseases; the Hygiene of Syphilis; Disinfectants; Village Sanitary Associations; and the very important subject of School Hygiene. Most of the subjects are treated exhaustively. One or two of them are too short for much benefit to be derived from them. That on the Hygiene of Syphilis heads this list. Dr. Lincoln's subject on School Hygiene, although not nearly as exhaustive as it should have been, is still a good one. If three-fourths of the space given to the Hygiene of Camps had been added to School Hygiene the work would have been still more valuable; but still these two volumes on "Hygiene" and "Public Health" are the very best in the language.

A MANUAL OF MIDWIFERY FOR MIDWIVES AND MEDICAL STUDENTS. By FANCOURT BARNES, M. D., Aber., M. R. C. P., London. [Henry C. Lea, Publisher: Phila. 1879.]

This is the title of a manual of about 200 pages which has been prepared by the author, and adapted to the wants of midwives. In so doing the writer has omitted any account of the more important obstetrical operations, confining himself to the mechanism and procedures incident to such cases of labor as are completed either naturally or by the more simple aids of the attendant.

To write a book of this kind and successfully steer between the two extremes of saying too much on the one hand and of saying too little on the other, is no easy task, and was one which evidently received serious consideration at the hands of the author, since he intimates in his preface that he had received assistance and advice from some of the ablest obstetricians in England. The old proverb that "a little knowledge is a dangerous thing," is painfully true of the midwife, and it is difficult to

draw the line which is to circumscribe her sphere of action. On the whole, Dr. Barnes has handled this delicate question with as good judgment as could reasonably be expected by excluding any account of the more important obstetrical operations from his work, whilst at the same time he has given the most admirable and lucid account of the mechanism of labor which it has ever been our pleasure to read. Hence, so far as it goes, this manual will prove exceedingly valuable to students and young practitioners seeking correct obstetrical information in a nutshell. We fear, however, that in this country we cannot expect for a long time to come, to have the average midwife educated up to even the modest standard set by Dr. Barnes. The midwife in our large cities is comparatively a modern institution, which has grown up with wonderful rapidity under the fostering influence of German society. Unfortunately, few of these will ever hear of Dr. Barnes or his manual, and so wise are they in their own conceit, that they would profit little by his admirable instructions in any event.

The frightful number of *still-born* children in our midst is largely due to the mismanagement and ignorance of midwives, who too often wait until the child's life is lost and the mother's threatened, before calling in a physician. And right here, we think, is the weak point in our author's production, for without intending to do so, he has left the impression that many cases of labor will terminate favorably when left to nature, which on every consideration of expediency should be aided artificially. A little clearer exposition of the symptoms and signs indicating a necessity for help, would render this little book as near perfection in its way, as anything could be. W. COLES.

A PRACTICAL TREATISE ON SURGICAL DIAGNOSIS. Designed as a Manual for Practitioners and Students. By A. L. RANNEY, A. M., M. D., Adjunct Professor of Anatomy, and Lecturer on Minor Surgery in the Medical Department of the University of New York. 8vo.; pp. 386. [New York: William Wood & Co., 27 Great Jones street, 1879.]

Dr. Ranney publishes this book at the request of his private classes. He has purposely omitted all questions of etiology, pathology and treatment, and confined himself exclusively to surgical diagnosis. He has presented the symptoms of diseases in marked contrast, and the surgical diseases selected are those that are most liable to be confounded. He places the diseases to be differentiated, one on one side of the page, and the other on the other side, and so arranged as to allow the symptoms of each to be reviewed separately by reading from above downward, thus getting all the symptoms of each disease, or to be read by paragraphs across the page; while thus reading, the symptoms or points of contrast become prominent. At the completion of each

subject, the symptoms that are common to both are given at the foot of the page. As a text-book for students, it will aid their memory by presenting the symptoms of diseases in *marked contrast;* while to the practicing physician it may prove a book of easy reference, when questions of diagnosis arise leading towards doubt or error.

UROLOGICAL DICTIONARY. By JOHN KING, M. D. [Published by Moore, Wilstach & Co., Cincinnati, O.]

This unique work has been for some time on our table, delay to notice which has not been from want of appreciation of the work, nor of courtesy to the publishers, but from a variety of other circumstances.

The author has most faithfully developed his design as set forth on the title page, viz., "Explanation of Numerous Technical Terms; the Qualitative and Quantitative Methods Employed in Urinary Investigations; the Chemical Characters and Microscopical Appearances of the Normal and Abnormal Elements of Urine and their Clinical Indications."

Illustrations of the above, twenty-seven useful tables and thirty-nine wood cuts, are given, which add materially to the value of the work.

It is published in clear type, on good paper, and in other respects leaves nothing to be desired in mechanical execution.

We cannot too highly commend the "Dictionary" to all practitioners of medicine who desire to verify their claims to be thoroughly posted. WM. DICKINSON.

MEMORANDA ON POISONS. By THOMAS HAWKES TANNER, M. D., F. L. S. Fourth American, from the last London Enlarged and Revised Edition. 24mo.; pp. 201. [Philadelphia: Lindsay & Blakiston, 1879.]

The author says, in his preface, that these Memoranda are intended to refresh the memory of the practitioner on a subject which is not brought under his notice so frequently as many other departments of medicine. They are especially adapted to show at a glance the treatment to be adopted in each particular instance of poisoning to which a medical man is liable to be summoned.

CLINICAL MEDICINE: A Systematic Treatise on the Diagnosis and Treatment of Diseases. Designed for the use of students and practitioners of medicine. By AUSTIN FLINT, M. D. 8vo.; pp. 795. [Philadelphia: Henry C. Lea, 1879.]

Dr. Flint was led to the preparation of this volume, so he says in his preface, by the belief that a work devoted to the diagnosis and treatment of diseases would be of aid to the medical student

in his clinical studies, and useful as a book of reference to the practitioner. We notice that the part of his work devoted to the affections of the nervous system occupies the largest space. Within late years this department of medicine has been greatly extended by the activity of pathological and clinical research. We heartily recommend the work to medical students.

Editorial.

IN OUR next issue we will give the obituary notices of Dr. Frank G. Porter and Dr. Benjamin Linton.

OUR readers will notice in the prospectus, published in the JOURNAL Advertiser, that we have added four new names to the list of collaborators of the JOURNAL. Dr. H. C. Fairbrother will make reports on the recent progress of Physiology; Dr. Love, who had this department under his care during the last year, will take the department of Anatomy, which was rendered vacant by Dr. Boutwell's removal to the East. Dr. Y. H. Bond will report on the recent progress of Rectal Diseases, Dr. Le Grand Atwood on Pathological Anatomy and Dr. E. Montgomery on Materia Medica. We have selected these physicians because they are men of large practice and mature judgment, and because we know that they, being representive men in their departments, will receive the respectful attention of the profession and will make the JOURNAL still more profitable to its readers.

"THE ALIENIST AND NEUROLOGIST."

The above is the name of a quarterly journal to be edited by C. H. Hughes, M. D., of this city. The Dr. is very well known to our readers as an able and fluent writer. We bespeak for him the support of the profession and welcome the *Alienist and Neurologist* as a compeer. Dr. Hughes' quarterly will be issued about the first of January prox. Its aim will be to bring all real

progress in psychiatry and neurology concisely, prominently and satisfactorily before the general profession.

All communications should be addressed to C. H. Hughes, M. D., 1313 Chouteau Ave. St. Louis Mo.

THE St. Louis Medical Society enters upon its winter session with pleasing prospects. The attendance is flattering, and the promise is made that a number of valuable papers will be presented on succeeding nights. This Society has a membership of about one hundred and sixty, and meets *each Saturday* evening. Physicians visiting the city are *always welcome.*

WE ARE pleased to place *the Medical Herald* of Louisville, Ky., upon our exchange *list.* Friend Reynolds is over modest in not placing his *name as* editor upon the title page. The get-up of his paper *is quite* creditable and it is one of the best journals coming *from* that city. We notice that he has a department of the Eye, Ear and Throat. In this we expect to imitate him, commencing with next year's volume. We wish the *Medical Herald* success.

THE TRI-STATE MEDICAL SOCIETY.

We invite the attention of our readers to the programme of the Tri-State Medical Society. The number of papers to be read at this meeting is more than twice as large as at the previous one. During the past year we have kept this Society constantly before the profession, and we flatter ourselves that this has to a considerable extent contributed towards making what promises to be the largest assemblage of physicians in the Union, with the exception of the American Medical Association.

WITH this issue we will drop all of our delinquent subscribers for 1878, and those for 1879 will shortly follow. As the advertisements nearly cover the expenses of publishing the JOURNAL, and as, under the new postal laws, it costs us no more to send out sample copies than to regular subscribers, we prefer to continue this, in order to do justice to our advertisers, than to continue sending to those who do not appreciate the JOURNAL enough to pay for it, after receiving it a sufficient length of time to judge of its worth.

Books and Pamphlets Received.

The Thermantidote: An Instrument for preventing the Evil Effects of Heat from Paquelin's Thermo-Cautery when Operating in Deep Cavities. By H. P. C. Wilson, M. D., Baltimore, Md. Reprint from transactions of the Medical and Chirurgical Faculty of Maryland. [Baltimore: *Maryland Medical Journal* Steam Printing House, No. 9 South Charles street; 1879.]

Transactions of the Pathological Society of Philadelphia. Volume VIII, containing the report of the proceedings from September, 1877, to July, 1878. Edited by J. Henry C. Sims, M. D. 8vo.; pp. 225. [Philadelphia: Printed for the Society, by J. B. Lippincott & Co., 1879.

Lacerations of the Cervix Uteri. By A. Reeves Jackson, A. M., M. D. Read before the Chicago Medical Society, July 7th, 1879. Reprinted from the *Chicago Medical Journal and Examiner*, for August, 1879. [*Chicago Bulletin* Printing Co., 113 Madison street, 1879.]

The Medical Department of the Missouri University: An Inquiry as to Its Efficiency. Addressed to the Medical Profession and the Public generally. By Robert McNutt, M. D. 1879. We will take occasion to review this pamphlet and its subject at a future time.

Treatment of Yellow Fever. By Joseph Jones, M. D. Extracts from a Clinical Lecture delivered in the amphitheater of the Charity Hospital, January 29th, 1879. Reported for the New Orleans *Medical and Surgical Journal.*

Twenty-first Annual Announcement of the Chicago Medical College Department of the Northwestern University, corner Prairie avenue and Twenty-sixth street, Chicago, Ill., for the session of 1879–'80. [Chicago, 1879.]

Emotional Prodigality. By C. Fayette Taylor, M. D. Read before the New York Odontological Society, March 18, 1879. [Reprinted from the *Dental Cosmos*, July, 1879. Philadelphia: Samuel S. White, 1879.]

Transactions of the Medical Society of the State of Tennessee, at its Forty-sixth Annual Meeting, 1879; pp. 213. [Nashville, Tenn.: Printed at the *American* book and job rooms, 48 Church street, 1879.]

News Items.

ROLLA DISTRICT MEDICAL SOCIETY.

The Twelfth Semi-annual Meeting of the Rolla District Medical Society will convene in Rolla, Mo., November 25th, 1879, at 11 o'clock A. M., and continue in session two days.

J. E. THOMPSON, President.

M. GODBEY, Secretary.

THE District Medical Society of Central Illinois will meet at Pana, on Tuesday, October 28th. Dr. B. M. Griffith, of Springfield, President, and Dr. Wm. H. Cook, of Hillsboro, Secretary.

MADISON COUNTY (ILL.) MEDICAL SOCIETY.

THE Madison County Medical Society meets quarterly on the last Tuesdays of April, July, October and January.

TRI-STATE MEDICAL SOCIETY.

The Indiana, Illinois and Kentucky Tri-State Medical Society will convene in Evans' Hall, Evansville, Ind., at 10 o'clock A. M., Tuesday, November 4th, 1879.

ORDER OF BUSINESS.

1. Prayer, by Rev. C. B. H. Martin, D. D.
2. Address of Welcome, Judge Wm. F. Parrett.
3. Address of Welcome to Kentucky and Illinois members, by J. R. Weist, of Richmond, Ind.

Response.

2 P. M.

4. Report of Committee of Arrangements, Dr. A. M. Owen, Chairman, Evansville, Ind.
5. Reading Records of last meeting. Appointment of Committee on Credentials.
6. Committee on Publication, Drs. G. W. Burton, F. W. Beard and Thos. F. Rumbold.
7. Report of Treasurer. Report of Corresponding Secretary. Reception of members by invitation.
8. Call for volunteer papers.

EVENING, 7:30.

Annual address of the President. Public. Dr. J. A. Ireland, Louisville, Ky.

SECOND DAY, 9 A. M.

CHAIRMAN OF SECTIONS.

Surgery—Dr. J. M. Keller, Hot Springs, Ark.
Practice of Medicine—Dr. S. H. Charlton, Seymour, Ind.
Obstetrics—Dr. J. W. Singleton, Paducah, Ky.
Gynæcology—Dr. H. B. Buck, Springfield, Ill.
Pathology and Microscopy—Dr. J. L. Mathews, Springfield, Ill.
State Medicine—Dr. Thad. M. Stevens, Indianapolis, Ind.

REGULAR PAPERS.

Strabismus—Dr. John Green, St. Louis, Mo.
Abuse of Coffee—Dr. J. S. Jewell, Chicago, Ill.
New Treatment of Hip-joint Disease—Dr. Duncan Eve, Nashville, Tenn.
Microscopy—Dr. Gordner, Bedford, Ind.

2 P. M.

Color Blindness—Dr. Dudley S. Reynolds, Louisville, Ky.
Diseases of the Sympathetic—Dr. Sarah Hackett Stevenson, Chicago, Ill.
Obstetrics Professionally Criticized—Dr. J. W. Singleton, Paducah, Ky.
The Coma in Cholera Infantum—Dr. Jacob Hayes, Bridgeport, Ill.
Obstetric Forceps Use and Abuse—Dr. G. B. Walker, Evansville, Ind.
Symptoms of Peri-Nephritic Abscess, with Cases—Dr. J. M. Holloway, Louisville, Ky.

EVENING, 7:30.

Public Address—Dr. J. M. Keller, Hot Springs, Ark.

THIRD DAY, 9 A. M.

Quacks—Dr. J. H. Rauch, Chicago, Ill.
Surgery—Dr. J. B. Cook, Louisville, Ky.
Paper—Dr. E. Williams, Cincinnati, O.
Dressing Wounds—Dr. David Prince, Jacksonville, Ill.
Surgical Treatment of Intestinal Obstructions—Dr. W. T. Briggs, Nashville, Tenn.
Ovarian Tumor—Dr. Edw. Borck, St. Louis, Mo.
Ophthalmology—Dr. J. L. Thompson, Indianapolis, Ind.

2 P. M.

Plaster Dressing—Dr. Lewis A. Sayre, New York.
Therapeutic and Hygienic Management of Consumptives—Dr. J. F. Hibberd, Richmond, Ind.

Local Poisons—Dr. H. C. Fairbrother, East St. Louis, Ill.
Management of Infants—Dr. J. B. Cook, Henderson, Ky.
Lithotomy vs. Lithotrity—Dr. A. M. Owen, Evansville, Ind.
Scarlatina—Dr. J. H. Charlton, Seymour, Ind.
Epidemic Scarlatina—Dr. J. W. Compton, Evansville, Ind.
Water as a Carrier of Disease—Dr. E. D. Laughlan, Orleans, Ind.

7:30 P. M.

Reception at Evans' Hall.
Public Address—Dr. E. H. Gregory, St. Louis.

FOURTH DAY, 9 A. M.

Sanity—Dr. J. D. Gatch, Lawrenceburg, Ind.
Mental Hygiene—Dr. J. W. Hervey, Indianapolis, Ind.
State Management of Insane—Dr. J. H. Helm, Peru, Ind.
Sanitary Effect of Drainage—Dr. Wm. Commons, Union City, Ind.
State Medicine, Quarantine and Isolation—Dr. Thad. M. Stevens, Indianapolis, Ind.
Sore Eyes—Dr. John E. Harper, Evansville, Ind.
Lesions of Abdominal Viscera—Dr. R. C. Thomas, Bowling Green, Ky.
Effects of Maternal Impressions Upon the Fœtus in Utero—Dr. W. B. Furman, Henderson, Ky.
Kentucky Lunatic Asylum—Dr. James Rodman, Louisville, Ky.

2 P. M.

Hypodermic Medicine in Hemorrhoids—Dr. Jas. H. Letcher, Henderson, Ky.
Pulmonary Consumption—Dr. S. E. Munford, Princeton, Ind.
Antiseptics—Dr. J. N. Rafferty, Palestine, Ill.
Epilepsy—Dr. Chas. D. Pearson, Indianapolis, Ind.
During each morning the Society will be in session as a body. If desirable, the sections will hold separate meetings in the afternoon.

Dr. G. W. BURTON, Secretary,
Mitchell, Ind.

RAILROAD AND STEAMBOAT ARRANGEMENTS.

Evansville and Boonville, one fare; Evansville and Terre Haute, one fare; Memphis, Paducah and Northern Railroad, one and one-fifth fare; Terre Haute and Chicago, one fare; Indianapolis, Cincinnati and Lafayette Railroad, one and one-fifth fare; Ohio and Mississippi, one and one-third fare; Vandalia, one fare; St. Louis and Southeastern, one fare; Louisville and Nashville, one fare; Evansville and Louisville Packet Co., one and one-third fare, (tickets good for ten days); Evansville and Cairo Packet Co., one fare; Evansville and Bowling Green, one fare.

Those coming from other States and points not reached by the above lines can get same rates. All delegates wishing to take advantage of these reduced rates, will procure from the Secretary, before leaving for Evansville, certificates of attendance.

The approaching session promises to be one of unusual interest, and as it is impossible to send programmes to every physician in good standing, it is hoped that you will take upon yourself the trouble of aiding one of the best working medical societies in the country by inviting all the best medical society men to come with you and take an active part in its proceedings. We expect from three to four hundred doctors to be present.

TENTH ANNUAL SESSION OF THE MEDICAL SOCIETY OF VIRGINIA.

The Society will convene in Sarepta Hall (No. 91 King st.), in the city of Alexandria, Va., at 7½ P. M., Tuesday, October 21st, 1879.

The following committees are also expected to report:

1. Advances in Anatomy and Physiology—Dr. J. E Chancellor, Charlottesville, Va.

2. Advances in Chemistry, Pharmacy, Materia Medica and Therapeutics—Dr. Edward T. Robinson, Richmond, Va.

3. Advances in Obstetrics and Diseases of Women and Children—Dr. George B. Jennings, Ruckersville, Greene Co., Va.

4. Advances in Surgery—Dr. W. Otway Owen, Lynchburg, Va.

5. Advances in Practice of Medicine—Dr. Wm. H. Bramblett, Newbern, Pulaski Co., Va.

6. Advances in Hygiene and Public Health—Dr. Samuel K. Jackson, Norfolk, Va.

Reports are also expected from special committees as follows:

Special Report on Hæmorrhagic Malarial Fever—Dr. Otis F. Manson, Richmond, Va.

On the Therapeutic Value of the Mineral Waters of Virginia—Dr. James B. McCaw, Richmond, Va., Chairman.

Committee to Petition the General Assembly of Virginia for Action in Relation to a National Board of Health—Dr. W. W. Parker, Richmond, Va.

The Executive Committee is informed of the probable attendance of several distinguished medical gentlemen of other States, from whom contributions of papers are expected.

The Executive Committee has also heard of several volunteer papers in preparation by Fellows of the Society, but as yet has the liberty of announcing the title of but two, namely, one on "Battey's Operation, with Reports of Two Cases," by Dr. Hunter McGuire, of Richmond, Va., and one on "Sutural Re-union of Divded Nerves," by Dr. William C. Dabney, of Charlottesville, Va.

METEOROLOGICAL OBSERVATIONS.

By A. WISLIZENUS, M. D.

The following observations of daily temperature in St. Louis are made with a MAXIMUM and MINIMUM thermometer (of Green, N. Y.). The daily minimun occurs generally in night, the maximum at p. m. The monthly mean of the daily minima and maxima added and divided by two, gives quite a reliable mean of the monthly temperature.

THERMOMETER, FAHRENHEIT—SEPTEMBER, 1879.

Day of Month.	Minimum.	Maximum.	Day of Month	Minimum.	Maximum.
1	70.0	85.0	18	64.0	74.0
2	67.0	77.5	19	53.0	70.0
3	66.5	83.0	20	52.0	72.0
4	62.0	78.5	21	52.0	75.0
5	56.5	79.0	22	53.5	78.0
6	64.5	79.0	23	61.5	82.0
7	61.5	77.0	24	52.0	65.0
8	52.0	70.5	25	**44.0**	66.0
9	54.0	70.0	26	50.0	73.5
10	57.0	63.0	27	64.0	79.0
11	57.0	78.5	28	63.5	82.0
12	63.5	73.5	29	67.5	84.5
13	55.5	72.5	30	62.0	**87.0**
14	49.5	71.0	31		
15	55.5	76.0			
16	53.5	80.0	Means	58.0	76.0
17	57.5	78.5	Monthly Mean	67.0	

Quantity of rainfall, 1.19 inches.

MORTALITY REPORT.---CITY OF ST. LOUIS.

FROM AUGUST 17, 1879, TO SEPTEMBER 13, 1879, INCLUSIVE.

Septicæmia..... 2	Cholera Infantum 60	Hydrocephalus &	Apoplexy 4
Measles 2	Inanition, Want of	Tubercular Men-	Cyanosis and At-
Syphilis 2	Breast Milk, etc. 15	ingitis..... 4	electasis..... 9
Scarlatina..... 3	Alcoholism..... 3	Meningitis and	Premature & Pre-
Pyæmia 5	Rheumatism and	Encephalitis 18	ternatural Birth. 15
Erysipelas..... 1	Gout..... 1	Other Diseases of	Surgical Operat'ns
Diphtheria..... 9	Cancer 5	the Brain and	Deaths by Suicide 6
MembranousCroup 4	Phthisis Pulmon..52	Nervous System15	Deaths by Accid't 21
Whooping Cough. 2	Bronchitis 2	Cirrhosis of Liver	
Atheromatosis Ater	Senility..... 11	and Hepatitis...14	Total Deaths from
Exhaust. fm Laborl	Pneumonia.....11	Enteritis, Gastro-	all Causes.....459
Typhoid Fever.... 8	Heart Diseases....10	Enteritis, Peri-	Total Zymotic Dis-
Cerebro Spinal Fe. 2	Other Diseases of	tonitis, and Gas-	eases 162
Remittent, Inter-	Respir'y Organs 12	tritis 12	Total Constitution-
mittent, Typho-	Entro-Colitis.....	Bright's Disease	al Diseases.....101
Malarial, Con-	Marasmus—Tabes	and Nephritis... 5	Total Local Dis-
gestive & Simple	Mesenterica and	Other Diseases of	eases 141
Contin'd Fevers,23	Scrofula 39	Urinary Organs. 3	Total Develop'tal
Puerperal Disea's. 6	Convulsions.....25	Recto-Pharyngeal	Diseases 28
Diarrhœal " 20	Aneurism	Abscess	Deaths by Viol'ce 27

CHAS. W. FRANCIS, *Health Commissioner.*

THE

SAINT LOUIS

MEDICAL AND SURGICAL

Journal.

VOL. XXXVII——NOVEMBER, 1879——No. 5.

Original Contributions.

ARTICLE XVI.

PARTIAL FORWARD DISLOCATION OF THE HEAD OF THE HUMERUS, OR BACKWARD DISPLACEMENT OF THE TENDON OF THE LONG HEAD OF THE BICEPS FLEXOR CUBITI—REPLACED AFTER THE LAPSE OF ONE MONTH.

By DAVID PRINCE, M. D., of Jacksonville, Ill.

John Lidell Baker, of Barry, Ill., aged seventeen, fell from a loaded wagon which he was driving, and a hind wheel is supposed to have passed over his chest and shoulder. After a short period of insensibility he rode to the house and had liniment applied, not knowing that there had been a displacement.

One month elapsed before the patient was examined with care, when it was discovered by his father, Dr. A. C. Baker, that the head of the humerus was too far forward. On careful examination it was found that the axis of the humerus corresponded

with the forward position of the head of the humerus, making it plain that there had been no fracture.

The antero-posterior movement of the humerus was good, whether passive or by volition. The outward and upward movement in the direction of the contraction of the long head of the biceps and of the central fibers of the deltoid could be effected only to a limited extent. The greater or posterior tuberosity impinged upon the projection of the acromion, and refused to slide under it, as in the normal relations of the parts. The coracoid process could be felt in its normal relation with the clavicle and with the acromion.

The diagnosis was made out to be displacement of the tendon of the long head of the biceps flexor cubiti, backward and outward over the great tuberosity, so as to lie across the glenoid cavity, crowding the head of the humerus forward, and restricting its occupancy to the anterior half of the glenoid cavity.

This implies that the insertions of the supra-spinatus and the infra-spinatus into the outer tuberosity of the humerus had been detached at the time of the injury. The detachment of the teres minor would permit the tendon to fall still lower, and increase the difficulty of reduction. The tendon being torn from its lodgment in the bicipital groove, and thrown over behind the head of the bone, would retain it in a forward position upon the anterior rim of the glenoid cavity.

The reason why this accident is rare (and by some thought impossible), is the breadth and firmness of the muscles, which must be torn from their connection with the bone before the bicipital tendon can be displaced backward. The forward displacement of the tendon meets with less impediment from the subscapularis muscle, the detachment of which is necessary to the displacement, and is therefore more frequent, though extremely rare in surgical literature.

Entertaining this theory of the case, the rational plan of reduction (under ether) was conceived to be:

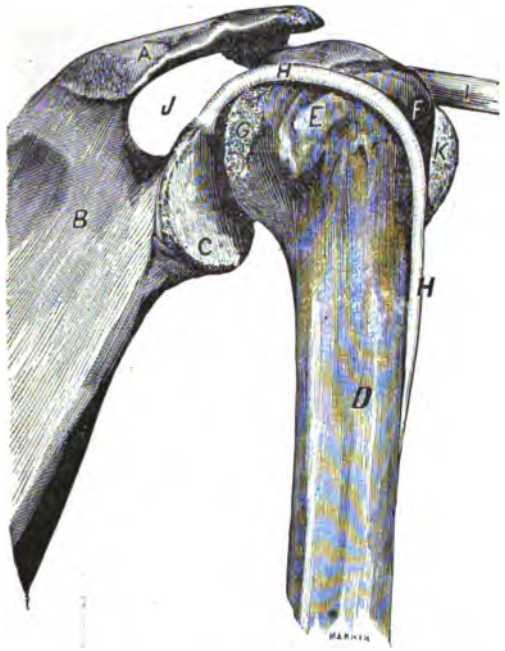
1st. The flexion of the forearm.

2d. The outward rotation of the arm.

3d. Circumduction, first backward, then outward, upward, and lastly forward and downward.

The first round failed to bring the head of the humerus into position. The second round was successful. The prominence of the head of the humerus disappeared, and the arm became capa-

ble of all its normal movements. The result justified the theory of the case. The treatment resulted in nearly complete absence of deformity, but after the lapse of several weeks a projection remained over the groove in the humerus in which the tendon normally lies, from which it is inferred that the tendon did not settle into its groove, but remained upon the deposit which is supposed to have filled the groove during the thirty days between the time of the injury and that of the reduction.



(A.) Acromion process. (B.) External face of the scapula. (C.) The articular surface or glenoid cavity of the scapula. (D.) The humerus. (E.) The insertion of the teres minor into the greater tuberosity. (F.) The insertion of the supra and infra spinatus, which are supposed to have been detached. (K.) The internal tuberosity—the groove for the tendon lying between the tuberosities. (H. H.) The displaced tendon. (I.) The clavicle disappearing behind the head of the humerus, and reappearing to be attached to the acromion process. (J.) Open space under the acromion.

The coracoid process is hidden by the articular projections of the scapula and the humerus.

Besides this, the displaced tendon must have carried with it a portion of the capsular ligament through which it passes, to-

gether with the distal attachment of the supra and the infra-spinatus. The reduction of the tendon, with its accompanying mass of capsule and muscle, may still have failed of a complete restoration of the tendon to its proper groove.

The foregoing figure illustrates the conception of the case:

The rareness of the case makes it proper to make the following references to the literature of the subject. I have been aided by Dr. J. W. Freeman in making this collection of references:

Bryant (Surgery, first American Edition, pp. 900), in speaking of displacement of tendons, describes one of the peroneus longus, and further on says: "It is a question whether any other tendon can be similarly displaced; it has been said that the long tendon of the biceps flexor cubiti may be, but it has never been demonstrated."

Dr. Frank H. Hamilton (Fractures and Dislocations, first edition, pp. 567–70) quotes several authors in relation to partial dislocation of the head of the humerus, but he maintains that "such an injury as a traumatic accident has not yet been established and the anatomical structure of the joint renders its occurrence exceedingly improbable, if not impossible."

Dr. Hamilton refers to the case of Sir Astley Cooper as a subcoracoid dislocation. In reference to the cases of Hairgrove and Dupuytren, he says it is quite probable that a majority of these accidents were examples of rupture or displacement of the long head of the biceps. He quotes John G. Smith from *Amer. Jour. Med. Sciences*, vol. XVI, p. 219, May, 1835; from *London Med. Gazette*, and Mr. Soden, same, vol. XXIX, p. 480; from *London Med. Gazette*, July, 1841, and Dr. Alfred Mercer, *Buffalo Med. Journal*, vol. XVI, p. 641, April, 1859, and says: "By a number of dissections it has been shown that the head of the humerus can be drawn upward and forward in its socket until it rests against the two processes and the craco-acromial ligament."

The conclusion of Dr. Hamilton would be unanswerable if it were not supposed that the subscapularis is detached for a forward displacement on the one hand, and on the other hand the detachment of the supra and the infra-spinatus for a backward displacement.

The case of Sir Astley Cooper (Cooper's Lectures on Fractures and Dislocations near the Joints, Am. ed. 1844, p. 352) was one of anterior displacement of the long head of the biceps and a cut is given showing the result of dissection, the patient

having some time afterward died from fracture of the skull. The case had been considered obscure until the dissection cleared up the obscurity.

Dr. Gross (Surgery Vol. II, p. 78, fifth ed., refers in general terms to ruptures and displacements of the long head of the biceps.

J. Mason Warren (Surgical Observations and Cases, p. 352,) quotes Malgaigne as relating a case of displacement of the long head of the biceps giving the appearance of partial dislocation.

Erichsen in his Surgery, Am. edition of 1878, Vol. I, p. 478, mentions the injury but gives no original observations.

The only case of outward displacement of the long tendon of the biceps to be found in the list of writers here quoted, is found in the chapter by W. H. Flower in Holmes' Surgery, (4 volumes) vol. II, p. 573.

In this case the long tendon of the biceps was found displaced to the outer side of the head of humerus, the preparation being deposited in the museum of St. George's Hospital. In this case the coracoid process was fractured and the deltoid torn so as to be transfixed by the head of the bone. From these quotations it appears that the displacement of the long head of the biceps outward, without extensive injury of the joint or of its surroundings, is of such rare occurrence as to be worthy of especial attention.

From the nature of the anatomy, this displacement cannot take place without laceration of the capsule. This, however, does not imply extensive injury. It is doubtful whether a complete dislocation of the head of the humerus can take place in any direction without rupture of the capsule, unless there is an unnatural relaxation of the capsular ligament. From the facility of the cicatrization of the rent capsule, not opened to the air, it is not to be wondered at, that subsequent dissection has failed to reveal the occurrence of laceration in those cases in which death has not speedily followed the injury. It may be said as a practical hint, that one's diagnosis of this and other cases of rare and obscure displacement, is not much aided by a historical knowledge of the surgery. It is chiefly by a knowledge of the anatomy that one must rely for a discernment of the relations of the parts in instances of obscure deformities. This case is reported therefore, not so much for any practical benefit to the profession as for making the literature of the subject more complete and to

show from anatomical considerations that the displacement is rendered possible by supposing the detachment of some of the muscles which are intimately connected with the capsular ligament which must itself be torn or displaced along with the tendon which passes through it.

ARTICLE XVII.

CASE OF HEMIPLEGIA AND APHASIA WITH POST MORTEM EXAMINATION. By A. A. HENSKE, A. M., M. D., of St. Louis.

Eight years ago, P. C., a native of Ireland and a railroad laborer, was struck with an iron bar on the left side of his head, by which he was stunned and remained unconscious for several days. He recovered from the immediate effect of the stroke but his right side was paralyzed, the limbs of the affected side somewhat contracted and the sensibility lessened. There was complete aphasia.

When he came under my observation, September, 1877, he was unable to utter any other word than "no," with which he answered any question, using it for affirmation as well as for negation. His intellect seemed to be clear, he being able to make himself understood by nodding or shaking his head and by gesticulating with his left hand. For instance, being asked how old he was and having some numbers mentioned to him, he would say "No," and shake his head if they were wrong, and say "No" and nod his head, if right. The expression of his face and gestures were intelligent and impressive.

Within the last two years, the vocabulary he made use of increased considerably. He became able to say "yes," "water," "milk," "God damn," "left him alone" (for leave me alone), etc. Since last June the symptoms of paralysis gradually increased and extended, the patient became more apathetic, grew entirely imbecile and was afflicted with extensive bedsores and passed his excrements involuntarily.

Within the last few months he experienced attacks similar to epileptic paroxysms, mostly at night, and disturbing the inmates of the house by loud screaming during these spells.

October 10th he died of marasmus, having been comatose for nearly 48 hours. His age was 59 years.

There was no history of rheumatism and no organic disease of the heart.

The autopsy revealed softening of the brain tissue of part of the middle and posterior portion (second and third convolutions) of the left anterior lobe and of the anterior portion of the left middle lobe. The convolutions of the island of Reil were destroyed, the left corpus striatum also affected. The softened brain substance had the appearance of a thick, yellowish, creamy liquid. Other parts of the brain appeared to be normal.

There was no trace of a fracture of the skull nor a depression, but there were cicatrices on the scalp over the affected region.

ARTICLE XVIII.

REPORT OF TWO SUCCESSFUL CASES OF "EXCISION OF HIP." By W. B. CRAIG, M. D., of St. Joseph, Mo.

At the solicitation of numerous friends, I desire to present to them through the medium of your valuable JOURNAL, a brief history of two cases of resection of the hip-joint for morbus coxarius. I am aware that in your city this is an operation held in high esteem by the majority of surgeons, and is frequently performed, yet a few discountenance it entirely as a justifiable operative procedure, and their position in the profession undoubtedly carries great weight to support such theory and practice as their belief is founded upon. The principal argument advanced being, "that those patients suffering from hip disease in its third stage are so thoroughly impressed with some 'constitutional vice,' scrofula or tuberculosis, they must inevitably succumb, in spite of every effort put forth in their behalf, and that excision only hastens the end."

Our own community, I am pained to confess, is not without such thinkers, and much injury to humanity has resulted at the hands of those votaries at its shrine. However, the etiology and pathology of this affection is so well understood generally, that it is not necessary for your humble servant to attempt any

rehash of either, yet upon a proper knowledge of each depends the success of our treatment. The importance of this cannot be overestimated.

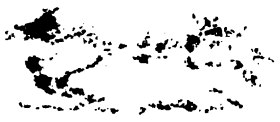
With a single explanation I proceed to report these cases: That both were in poor families, one of which was compelled to seek aid from the city authorities, their habitation being hardly sufficient to protect them from the weather. In addition to this, it was impossible for me, under the circumstances, to procure either a wire cuirass or breeches This, of itself, militated much against the success of the cases, especially as regards the length of the limbs. I was therefore compelled to improvise my own apparatus.

CASE I; Jan. 31st, 1879—Was assisted by Dr. Geiger, the medical class of the St. Joseph Hospital Medical College being present. Name, Henry Veraguth. German, æt. 10 years. The disease was first noticed three years previously, developing itself a short time after being thrown upon his hip; was at this time perfectly robust and healthy.

Diagnosis: Morbus coxarius, third stage. The left leg, several sinuses about the hip and back; none in the groin, all leading to dead bone. The leg flexed upon the thigh, and the thigh upon the pelvis, adducted and atrophied.

Method selected, Adams' T-shaped incision down to trochanter. The periosteum was then divided at right angles to the first incision, and stripped from the bone. The head and neck of the femur was then thrown out from the acetabulum and sawn off; likewise one and one-half inches of its shaft. By thus stripping off the periosteum the muscular attachments were preserved, upon which depends, to a great extent, the future usefulness of the limb. The acetabulum was considerably diseased, consequently all suspected tissue was removed, the wound syringed out and plugged with oakum saturated with carbolized balsam of Peru, and its edges approximated at its superior extremity by silk sutures, and the entire dressing supported by adhesive straps.

We then applied Buck's extension, temporarily, placed the little patient in bed, and administered an opiate. No severe surgical fever ensued, and at the end of forty-eight hours the wound was dressed as before, and once every twenty-four hours afterwards for about six weeks. A Dupuytren splint was applied as a permanent apparatus for extension. At the expiration of two



months we adjusted along hip splint and permitted the patient to use crutches. The bone reformed very rapidly, and by daily passive motion anchylosis was prevented, and a useful joint resulted. He can now bear considerable weight upon the limb, and all sinuses have healed. Amount of shortening, two inches.

SEPTEMBER 30th, 1879.

CASE II.—February 12th, 1879. I was assisted by Drs. Christopher and Doyle; the medical class also were present. Name, D. Taylor, æt. ten years. Family history good. Disease of five years' standing.

Diagnosis: Morbus coxarius, third stage, right thigh; three sinuses over hip, and two in the groin, one of which was ulcerated at its orifice to the extent of two inches. The probe lead to dead bone through each sinus. Suppuration very abundant. The limb in position of the third stage and remarkably atrophied. The little girl was almost moribund at the time of the operation.

Her father stated that "she had been treated by seventeen 'doctors' in all, among whom was the noted Paul Kastor, of Ottumwa, Ia."

The method employed was Sayre's semi-lunar incision, commencing at a point midway between the anterior superior spinous process of the ilium and the great trochanter, carried down to the bone over the joint to a point corresponding to the middle of the trochanter major, in all four inches in length.

The usual T-shaped incision was then made in the periosteum, which was peeled off the bone with the elevator, the attachments of the muscles being thus preserved, likewise the insertion of the obturator externus to the digital fossa was severed by hugging the bone closely; thus avoiding the terminal branches of the internal circumflex, the only artery likely to be wounded from which troublesome hemorrhage might ensue. The head and neck of the thigh bone being thus relieved of their attachments were easily thrown without the joint and removed by the finger in the absence of a chain saw.

Upon examination, the shaft was found to be necrotic centrally to a considerable extent, with also a limited peripheral exfoliation, which necessitated the removal of two inches of it; a slightly carious condition of the cancellous structure was permitted to remain from the fact that this tissue in early life undergoes such

rapid repair and alteration according to Frank H. Hamilton and others. The result more than verified the correctness of such practice.

The acetabulum proved to be completely broken down and denuded of covering, its center perforated, nothing intervening between it and the cavity of the pelvis but the internal periosteum. Likewise the rim of this cavity was dead and blackened and from the joint escaped a dark, grumous pus and detritus of dead and dying osseous tissue.

By means of the gouge and elevator, all carious tissue was removed, the joint syringed out and all spicula of bone, blood, pus, etc., swept away. The wound was then packed with oakum saturated with carbolized Peruvian balsam, the lowest portion of its edges united by sutures, and the whole supported with strips of moleskin plaster passed over the joint and around the hips. The limb was then placed in a straight position and a pulley and weight attached.

In addition to this operation, it was thought proper to resect a portion of three tarsal bones, which had been diseased for some time, and from which two sinuses lead. These were enlarged, the carious tissues gouged out and a seton of oakum, medicated, passed through one and out of the other opening, and renewed daily by twisting fresh oakum upon one extremity and pulling it through the wound.

The little girl was then placed in bed, covered with warm clothing, and soon reacted perfectly. She was placed under the influence of opium for the first twelve hours, but required no anodyne thereafter. The wound was left untouched for the first forty-eight hours; then it was dressed as before, once every twenty-four hours. In addition, a Dupuytren splint was applied in place of the pulley, modified to suit the case and its surroundings.

At the expiration of two months a Sayre's short splint was adjusted, and the patient permitted to go about on crutches. No unfavorable circumstance arose, although her condition prior to the operation and her surroundings were anything but favorable to recovery, and it was at her earnest request and that of the family that I consented to risk an operation.

At this date (Sept. 30th, 1879) she is in good health, can bear the weight of her body on the limb, and run and play, still using one crutch. Motion at joint is good; bone reformed rapidly and perfectly. The amount of shortening is two inches, which

is amply compensated for by an extra heel and sole to shoe. Had it been possible to obtain either wire breeches or a cuirass, we believe the amount of shortening would not have exceeded one-half inch.

ARTICLE XIX.

NOTES ON LITHOTRITY. By REUBEN A. VANCE, M. D., of Cincinnati, O.

In what cases is lithotrity the best measure for the surgeon to adopt? This question is to be answered by stating that, in all cases in which any operation is advisable, lithotrity is to be chosen, provided—

1st. The urinary passages admit a lithotrite with ease, and permit it to be used with freedom; and,

2nd. That the nature and size of the stone is such that it can be crushed with advantage.

When a surgeon is brought face to face with a case of vesical calculus, and required to apply all the resources of his art for the relief of the sufferer, he knows that practically there are but two measures at his command; he can either cut the patient and remove the calculus, or pass an instrument and crush the stone *in situ*. The choice is between lithotomy and lithotrity. In determining in a given case the preferable measure to adopt he is guided, to a certain extent, by the experience of the profession. This says lithotomy and lithotrity are not to be regarded as rival methods, one of which is destined to supercede the other; but they are rather to be viewed as supplementing each other, each having its special application to particular conditions, which should be carefully discriminated. The conscientious surgeon should aim, in every instance, to relieve his patient by the painless and comparatively safe process of crushing, provided there is nothing in the case absolutely requiring a resort to the knife rather than to the lithotrite.

Looking, therefore, upon all cases of vesical calculus as subjects for lithotrity, let us review the indispensable requisites for that operation. These have been already detailed, and can be summarized by saying that the preferable operation in all cases

in which the stone will yield to the lithotrite, is by crushing, provided it is desirable to operate at all, and that the urinary passages are large enough to admit the instrument with ease, and are not so delicate but that it can remain in the bladder for a few moments at a time.

Is it desirable to operate at all? To this question a negative answer must be returned in very many cases. Patients who suffer from advanced Bright's disease, aneurism of one or the other of the great vessels, organic disease of the heart, and the like, are manifestly not subjects for lithotrity or any other capital operation. A microscopical examination of different specimens of the urine should be made sufficiently often to convince the operator not only that he is not dealing with a case of incurable kidney disease, but that the patient before him is free from organic degeneration or purulent inflammation of the bladder; for experience shows that suppuration of its walls and villous disease of that organ may, and not infrequently do, cöexist with vesical calculus. The size of the urethra and the degree of irritability of the urinary passages are very important elements in the question of lithotrity or lithotomy. The smaller size and greater degree of irritability of the genito-urinary passages in a child renders the crushing operation less applicable than a resort to the knife.

With advancing years this necessity for the employment of the knife grows less and less, until in many cases in which the patients are still under puberty, the choice between the two operations will depend either solely or in a very great degree upon the ability of the surgeon to overcome vesical and urethral irritability, so that the lithotrite can be tolerated in the bladder for a number of minutes in succession. A judicious and skillful surgeon can overcome this hyperæsthesia in all cases where the passages are of a size to allow the entrance of a lithotrite, and it thus becomes evident that in the hands of such an operator the number of cases in which it will be possible to substitute the crushing for the cutting process will be much greater than in the hands o one who blindly follows the rule rather than strives to overcome contra-indications. The amount of obstruction afforded by a stricture of the urethra or an enlarged prostate body, whether occurring alone or complicated by urinary fistulæ and chronic cystitis, can only be estimated in each individual case. Stricture or prostatic enlargement can only negative crushing when the obstruction is so great as to interfere with the proper manipula-

tion of the lithotrite. The chronic cystitis of stricture and enlargement of the prostate, when attended by atony of the vesical walls, is accompanied by great tolerance on the part of the mucous membrane lining that organ—a degree of tolerance that makes that structure indisposed to take on inflammatory action when subjected to the irritation arising from the presence of fragments of stone, and prevents our including this form of inflammation of the bladder among the conditions contra-indicating the operation.

Again, in cases where the general bodily health is such as to admit of an operation, and the state of the urinary organs favors lithotrity, a crushing operation may be rendered impracticable by the size or the composition of the calculus. Thus, when the stone is of oxalate of lime, and exceeds an inch in diameter, it may be mechanically impossible to crush it by any force that can be safely brought to bear upon it by the lithotrite. In a very large uric acid stone, or a stone composed in great part of phosphatic salts, although within the power of an instrument to crush, yet the number of sittings necessary, and the length of time during which the fragments would necessarily be in immediate contact with the lining membrane of the bladder, are circumstances which often induce the surgeon to resort to the knife rather than the lithotrite.

Statistics show that stone is most common in individuals between fifty and seventy. The teaching of authorities other than Thompson placed childhood in the van, but the researches of the latter demonstrate the fact to be as just stated. The difference of opinion on this subject is due to this: while childhood furnishes the vast majority of cases of this affection, yet, compared with the relative number of individuals of each class living at the time, it is amongst elderly adults that stone is most commonly found. To be more specific, taking individuals of each class relatively to the number of that class living at the time, the most favorable period for calculus is from fifty-five to seventy-five; the next is that below puberty; and the most rare, that of middle age. Nevertheless, it is an important fact to be borne in mind in this connection, that one-half of the total number of hospital cases occur in patients under thirteen years of age.

A word as to the varieties of calculi, and the numerical proportion of the different sorts. If we include in one group the uric acid stones and the stones compounded of the urates of pot-

ash, soda and ammonia, and in another the calculi formed by the union of phosphoric acid with lime, magnesia and ammonia—the ammonio-magnesian calculus, the fusible calculus and the calculus of phosphate of lime—leaving for a third group the oxalate of lime stones, and on account of their comparative rarity omitting the infrequent cases of calculi composed of carbonate of lime, cystine and xanthine, the relative frequency of different varieties can be estimated as follows:

Calculi of uric acid and the urates	60 per cent.
Phosphatic calculi	36 per cent.
Oxalate of lime calculi	4 per cent.

The following facts should always be borne in mind when discussing the life-history of vesical concretions: The nuclei of stones of either class may form in the kidney, and only live the latter part of their career in the bladder; yet, although this is the general rule for uric acid stones and those formed of oxalate of lime, it is the exception for the phosphates. However, when the nucleus of a stone is either formed in the bladder or comes to it from the upper urinary passages, its manner of enlargement is much the same in all cases. The influence of the salts of the decomposed urine can be detected in the layers which coat the central nucleus, when the stone has grown by accretion. With a nucleus of oxalate of lime or uric acid a phosphatic stone may take from two to three years to attain its full size; a calculus of uric acid or the urates a much longer time; while with one composed of layers of oxalate of lime a still greater period will intervene. After a certain size has been reached, the degree of irritability on the part of the bladder will not only determine the rate of growth, but the nature of the deposited material. This is true whatever the nature of the original nucleus—whether composed of uric or oxalic acid with the various bases, or consisting of masses of the phosphates or other urinary salts accidentally deposited in the bladder and mechanically agglutinated by the mucus of the parts. With an irritable bladder predisposed to cystitis, and a rough and irregular stone, the acidity of the urine may be neutralized by a hypersecretion of vesical mucus, due to mechanical irritation, and as a consequence deposits of the earthy phosphates first take place—a condition speedily followed by decomposition of the retained urine and the generation of ammonia,

a state of the bladder and its contents extremely favorable for the rapid growth of certain forms of calculi.

When a patient with stone comes to a surgeon and desires to have the calculus removed, what is the duty of the latter? The proper answer to this question involves a recognition of the size of the stone and the state of the bladder, besides a determination of the question as to whether the patient is a person upon whom it would be right to perform a capital operation. Granting that the individual is one in whose case lithotrity is the measure to resort to, and that furthermore he is one upon whom the lithotrite can be passed, let us glance at the manner in which the size of the stone and the state of the bladder is to be determined, and review the means best adapted to place the patient in a proper condition for the operation. This done, the operation itself can be outlined and the measures calculated to aid in securing a speedy recovery fully portrayed.

In this connection it should be borne in mind that as a general rule vesical calculi are solitary, and that in size they vary from dimensions a trifle too great to permit of their passage along the urethra to a bulk only limited by the distensibility of the bladder. In weight and density they vary with their chemical composition—the former alone can give no adequate idea of the volume of the concretion. The stone of oxalate of lime is the heaviest in proportion to volume; next comes the pure uric acid calculus; while the lightest and most fragile are those composed of the phosphates. Again, the outer layers of a stone may be brittle and soft, while the nucleus is hard and resisting. An oxalate of lime stone may have several coverings of phosphates which give a deceptive feeling to the touch, and only reveal its true character after the lithotrite has been once or twice applied. A central phosphatic body may, in like manner, become incrusted with oxalate of lime. In either case the diagnostician may be led astray, should he decide hastily. In every instance he should be prepared to unmask either a deceptive feeling of softness or a fictitious sensation of hardness, and in no case should he decide until he has done all that is possible to make sure that the composition of the concretion is really what he imagines it to be. Again, while single calculi are the rule, the observer should remember that in one case out of seven, multiple calculi are met with, and never pronounce decidedly as to the number of stones until a special examination furnishes ground for an opinion. In order to form

an idea as to the state of the bladder in which a calculus has developed, let us glance at a few points in the clinical history of patients so affected, and seek an explanation of the symptoms complained of in the pathological condition of the diseased structures.

The first indications of the presence of a stone are uneasy sensations referable to the neck of the bladder, and a desire to pass water, recurring with unusual frequency. The stone, when small and moveable, is liable to be carried by the flow of urine to the outlet of the bladder, and thus cause a sudden stoppage of the stream, accompanied by a sharp twinge of pain along the course of the urethra, felt most acutely at the outlet. The muscles at the neck of the bladder are thrown into spasmodic contraction by the presence of a foreign substance, and grasp it closely; if the surface is rough, the contact brings blood from the sensitive and vascular membrane, and this is voided with the next urine that passes. The neck of the bladder is its most sensitive part, and the recurrence of this rough contact sooner or later develops inflammation. Under these circumstances inflammation begins at the neck of the bladder, and involves the body of the organ; and as the stone grows, after a longer or shorter period of simple irritation, cystitis is established—brought about by mechanical violence, both from contact with the stone and by bruising from spasmodic contraction of the muscles concerned in urination. Inflammation of the bladder from stone is gradual of approach and chronic in character. During the first few weeks or months of the stone's presence in the bladder, while as yet there is no cystitis, but only irritation, the urine remains bright and clear, showing only a slight increase of mucus, or perhaps a little blood occasionally—the latter generally due to some rough exercise. But so soon as cystitis sets in, pus corpuscles present themselves? Hypertrophy of the muscular coat of the bladder is gradually taking place, its interlacing fibers assume prominence, and the irritated organ, intolerant of distension, discharges its contents at still smaller intervals, and speedily a tendency to contraction is established. The presence of alkaline pus in the urine occasions a more rapid increase in the size of the stone from phosphatic precipitation, and exudation in the submucous web of connective tissue adds materially to the thickness of the bladder walls. The time required to bring about these changes varies greatly. A child may carry a calculus for years, and yet the urine

may remain bright and free from pus; in adults, extensive alterations occur rapidly. Preëxisting lesions of the obstructive sort in an old man may have already given rise to chronic cystitis with contraction of the bladder and thickening of its walls; or, as occurs not infrequently from prostatic obstruction, the bladder may have given up the struggle to overcome the obstacle, and may have fallen into atony, with loss of contractile power and indefinite expansibility. The pain and suffering in the first of these two conditions are infinitely the greater, for the spasmodic contraction of the hypertrophied muscular walls of the bladder tends to grind the diseased mucous membrane against the newly formed stone, often to force the stone into painful contact with the more sensitive neck, and thus add to the existing obstruction and increase the difficulty and frequency with which the urine is voided. In the latter condition, the contractile element being absent, the patient is compelled to draw off his urine with a catheter, and is thus free from the constantly recurring desire to urinate, with its accompanying spasms and tenesmus, and suffers, instead, a milder pain at longer intervals. Other changes are liable to occur in the bladder. A hollow develops behind the prostate, called by the French the "bas-fond" of the bladder. This becomes necessarily, both in the upright and horizontal positions of the body, the deepest as well as the most dependent portion of the cavity of the bladder, and it is therefore usually occupied by the stone when present: and the stone is thus, in a manner, prevented from contact with the sensitive outlet of the bladder. This excavation is often so considerable that an ordinary sound cannot be made to reach a calculus lodged in it. A sound with a short curve like a lithotrite, is the instrument to be employed whenever a stone is suspected in a case of enlarged prostate.

Calculi may, and often do, form in the little pouches jutting out between the meshes of hypertrophied muscular fibers known as sacculi, and sometimes become so large as to be permanently entrapped in these cavities. In cases in which the bladder has lost its contractile power from neglect to employ the catheter, it is constantly in an over-distended, water-logged condition, relieving itself irregularly and imperfectly by spontaneous overflow. Civiale called this "stagnation." Under these circumstances, and indeed, whenever the outlet of the bladder is the seat of obstruction, the ureters, subjected also to over-distension, become dilated and tortuous; the inflammation of the mucous membrane

of the bladder extends to and gradually involves their altered and weakened walls, and continuing to extend, finally invades the pelves of the kidneys. The secreting structure of the kidneys, predisposed to disease by disturbance of function, now participates in the advancing disorder, and functional disturbance of serious import, attended by evidence of uræmic poisoning, foreshadows the fatal result which is imminent. This is the usual course by which the end of life is reached in vesical calculus, not interfered with by art—especially when associated with obstructive disease. Occasionally calculi escape by ulceration; such cases, however, are extremely rare. It is curious and noteworthy that in these cases no urine is extravasated—the effort being purely conservative. Multiple abscesses not infrequently form in the prostate, while abscesses outside the bladder, in the neighborhood of its neck, are complications of possible occurrence. Deposits of pus may not only be discovered in these situations in fatal cases, but circumscribed abscesses of the liver, spleen and kidneys, are common.

The position assumed by the patient is a point of the first importance, not only in lithotrity, but in every step of the preparatory explorations in which it is necessary to pass the lithotrite and grasp the stone. By elevating and arranging the bed and properly placing the patient, we can in a great degree surmount those obstacles to the operation due to morbid changes in the shape of the bladder. Elevating the hips tends to roll the stone back from the orifice of the bladder, and is a movement demanded in the youth, where the pear-like shape of the organ causes the stone to roll to the sensitive parts about the neck, and in the aged, where changes in the bladder and prostate are liable to produce an excavation behind the prostate body in which the stone is concealed. It is also advisable that the patient retain his urine for two or three hours at least before the lithotrite is passed. This measure conduces more surely to the presence of a sufficient quantity of liquid in the bladder for the operation, than does injecting water just before passing the instrument, it matters not what precautions may be used nor what care is exercised in throwing fluid into that organ.

The patient properly placed, the surgeon takes position on his right side, and with a lithotrite warmed and oiled, prepares to pass it into the bladder. It may not be unnecessary to state that the side upon which the surgeon stands is the reverse of that oc-

cupied when a catheter is to be passed, and that the reason is, that after the lithotrite is in the bladder, he will not have to change des in order to place himself in the best position to manipulate with the right hand. Standing thus on the right side of the pa-ent, the surgeon inserts the beak of the lithotrite in the mouth of the urethra, and with his right hand slowly and gently draws the penis over the instrument in such manner that, without changing the position of his left hand, in which he holds the lithotrite carefully balanced, the urethra is slowly pulled over the beak and on the shaft. This done, the handle of the lithotrite is to be slowly elevated to a vertical position, the right hand of the surgeon meanwhile following carefully the curve of the beak in the perineum, and directing the point of the beak towards the orifice through which the urethra perforates the triangular ligament. As the shaft and handle of the instrument approach a vertical position, the surgeon must carefully manipulate, and if necessary, slightly elevate, the beak in order to make the point of the instrument enter this opening. So soon as the beak is well engaged, the surgeon changes hands. With the right hand he takes hold of the handle, and with the thumb and forefinger of the left encircles the base of the penis and presses down, so as to stretch the triangular ligament of that organ. While the left hand is so engaged—the beak, meanwhile, being well into the membranous portion of the urethra—the right hand slowly depresses the handle of the lithotrite, care being taken that no more force is exerted than is necessary to carry the point from the membranous to the prostatic portion of the urethra. If the left hand keeps up a constant pressure upon the base of the penis, the beak will readily, easily and without material discomfort pass from the membranous urethra along the prostate sinus, and as the handle approaches a horizontal direction, first the point, and then the angle of the beak will enter the bladder. The power of rotating the shaft laterally is proof positive of the presence of the beak in the bladder. In advanced life more difficulty may be met with in introducing the lithotrite. The prostatic sinus is more excavated, and between it and the depression behind the prostatic body a bar-like elevation, due to senile changes, is sometimes encountered. In such cases the passage of the beak along the prostatic portion of the urethra must be carefully watched; tension must be exercised so as to stretch the suspensory ligament of the penis to the utmost, and the increased depth of the passage

between the triangular ligament and the opening of the bladder, must be constantly borne in mind. If this is done, the lithotrite will gradually overcome all obstructions and enter the bladder with ease. One source of error is constantly to be borne in mind. Thus, when the urethra is surrounded by an enlarged prostate, and its calibre is narrowed from side to side by encroachment of the lateral lobes, the vertical diameter of the canal is correspondingly increased, and this peculiar change of shape in the prostatic urethra—together with the delay in reaching the bladder in consequence of increased length of the passage—is likely to lead the operator to depress the handle of the lithotrite too soon. The greater depth of floor and height of ceiling in the prostatic urethra under the circumstances, will readily permit the beak of the instrument to rise into its cavity, and the operator, regarding only the depth to which his lithotrite has penetrated, may readily deceive himself with the idea that its beak has entered the bladder, when, in reality, it is still in the prostatic sinus. The obstruction to lateral rotation of the shaft will at once correct this impression. By again elevating the handle and gently urging forward its depressed back, the cavity of the bladder is speedily entered. When once the sensation of freedom which announces the arrival of the beak of the lithotrite in the bladder is experienced, the angle formed by the shaft and handle of the instrument with the body of the patient is carefully noted, and the surgeon should endeavor, in subsequent manipulations, not to deviate from it more than is absolutely necessary. In certain manipulations, essential in exceptional cases, this angle must be departed from, but the rule is to adhere to it, and preserve it, whenever possible.

Furthermore, the patient must not be notified of the day the operator proposes to crush. Let him become perfectly familiar with all the movements necessary for the introduction, search for, and measurement of the stone, but so far as the time for crushing is concerned, that had better remain a secret with the surgeon. Again, the sooner the latter adopts an invariable rule in regard to the length of time he permits his instruments to remain in the urinary passages, the better it will be for his success. Three minutes should be the limit in ordinary cases. If, for instance, the operator determines to crush on a certain day, but when the time arrives, he finds that through some unusual situation assumed by the stone, or unnatural degree of irritability on the part of the

bladder, he is foiled in speedily grasping the calculus with the lithotrite, or that the manipulations necessary to do so are more prolonged than the bladder is accustomed to, a proper regard for his patient's interests requires that the operation should be postponed. If he does not tell the patient the day he proposes to crush, the latter will not know that anything has occurred to delay the operation, and the surgeon will be saved the necessity of explaining, and the patient the doubts and anxieties which would inevitably arise.

The management of the patient after he comes into the hands of the surgeon, and before the stone is crushed, is of the utmost importance. As a preliminary measure it is very desirable that the patient keep closely to his room for two or three days, and that the temperature—taken with the thermometer in the rectem—be registered at least every morning, noon and night. The urine should be examined with the microscope, and its reaction and quantity of pus present, noted. At the expiration of the few days devoted to the thermometric observations, preparatory treatment, designed to place the patient in the best condition possible for lithotrity, may be inaugurated. The character of the measures adopted will depend greatly upon the condition of the bladder; but steps designed to place the bladder at rest and to improve the general health are always indicated. The bowels should be made to act daily, and all rectal inflammation or irritation subdued. All exercise calculated to bring the stone into violent contact with the neck of the bladder should be interdicted. The diet should be bland and nutritious, but not stimulating. The patient should be kept as much as possible in the fresh air and sunshine, and every endeavor made to render his surroundings bright and cheerful. Let him drive in an easy-going vehicle, and if the season and locality permit, he can indulge in yachting and sailing, but no rowing. A few weeks of this course, and there is generally a material subsidence in the purulent character and irritant quality of the urine. The state of the bladder will indicate the nature of the measures required for its relief. If the urinary passages are hyperæsthetic, the bladder contracted and its walls in contact with the stone—a condition in which the urine is alkaline, heavily laden with chemically altered pus, and voided in small quantities, frequently and almost involuntarily—very different measures are required from those necessary when its walls are atonied and its cavity greatly

distended. In either case the surgeon should himself attend to washing it out daily. In several patients in whom the bladder was thickened and contracted upon the calculus, I have overcome the hyperæsthesia of the parts in this way. Gradually winning the patient's confidence by assuring him that the steps to be taken will be painless, and then exercising every care not to hurt him in the least, I pass a catheter with two large lateral openings at or near its curved end, which in addition has two compartments that enable me to send a continuous current of liquid out of these terminal openings, and at the same time to give exit to this liquid as soon as it has been brought in contact with the mucous lining of that part of the urinary canal into which the catheter has been passed. Connecting this catheter with a rubber receptacle for water by means of elastic tubing, by properly arranging this receptacle above the patient's bed, it is possible to submit the urethra to the influence of warm water for any desired length of time.

Commencing by cautiously inserting the curve of the catheter into the penis, and permitting the water to flow but slowly, I generally find but little trouble in being able to work my way into the bladder. If the parts are very sensitive, dissolve sulphate of morphia—making the solution any strength desired—in the water, and subject the whole urethra to its influence. But few applications will be required to permit the catheter to pass partly into the bladder, absolutely without any pain whatever. At this point I am in the habit of using very strong aqueous solutions of sulphate of morphia and subjecting the lining membrane of the prostate and the parts about the neck of the bladder for a number of minutes to the influence of water at 100° F., to which from five to twenty grains of morphia to the quart have been added. I am always careful to at once follow the injection of the solution of morphia with a quart of pure water, thus preventing the possible retention of any of the narcotic in the vesical cavity. As soon as I am able to pass this instrument so that the apertures can communicate with the bladder, in addition to whatever steps are required to overcome morbid sensibility, I adopt others looking to the removal of accumulations of chemically altered pus and such other deposits as may exist in the vesical cavity. Daily distension of that cavity I have found fully as valuable a measure as Brodie declared it to be. Adding a few drops of the tincture of chloride of iron to the water thrown into the bladder is a meas-

ure that succeeds well in many cases of vesical atony; in cases where the bladder is thickened, and its wall contracted, no local application is better than a diluted solution of sulphate of morphia, judiciously employed. Internally, benzoic acid and balsam copaiba are influential agents in cases in which there is a tendency to excessive secretion from the vesical mucous membrane; buchu and gelseminum, where the bladder is greatly imflamed; while uva ursi, epigæa repens, triticum repens and pareira brava are agents of great value in fulfilling special indications in certain cases.

In fact, the remedial treatment of urinary complications arising from stone in the bladder is far too extensive a subject to be entered upon in this connection, and must be deferred for the present. Suffice it to say, that the use of the lithotrite affords the surgeon an opportunity to familiarize the patient with its introduction and manipulation within the bladder, and enables him to test the character of the stone so far as contact with it will enable him to judge, and to measure its size in all its diameters. When the surgeon faithfully attends to all these points himself, he will almost invariably have the satisfaction of seeing that the vesical irritability will daily grow less, the patient become accustomed to the use of the instruments in the same proportion, and that his acquaintance with the peculiarities of his patient's constitution will become such that he will be enabled to enter upon the operation with so just a comprehension of his case that the chances of failure will be reduced to the minimum.

When the day for crushing arrives, the surgeon should endeavor to proceed as if nothing unusual were to happen. Carefully regulating the position of the patient according to the requirements of the case as determined by the preparatory explorations, the lithotrite is introduced in the manner described. It generally happens under the circumstances that the lithotrite comes in contact with the stone immediately after the beak of the former emerges from the prostatic sinus, and is passing through the cavity of that viscus, on its way to the posterior wall. When it is touched, the operator cautiously turns the beak away from the stone, and by gently withdrawing the male blade opens the jaws of the instrument widely enough to grasp it. The beak of the lithotrite is rotated away from the stone before moving the male blade, in order to prevent the concavity of the jaw, as it is being withdrawn, from striking the stone, and thus altering its

position. During this maneuver the female part of the lithotrite is held with the convexity of the beak against the junction of the posterior wall with the floor of the bladder with the left hand, while with the right hand the male blade is drawn towards the operator, care being exercised that it is not drawn so far as to come in contact with the neck of the bladder. The open jaws are now made to embrace the stone by rotating the back of the lithotrite to a horizontal position, and are gently closed upon it. As soon as the stone is grasped the instrument is rotated until its jaws are vertical, and the button-trigger in the handle is pressed back by the thumb of the right hand, thus fixing the male blade, and at the same time bringing the screw into gear. The lithotrite is now ready for the application of the screw power. An old and very good rule is, that at this point, the surgeon satisfies himself by the slight withdrawal and partial rotation of the instrument with the calculus in its teeth, of the perfect mobility of the lithotrite, and that no portion of the lining membrane of the bladder has been included within its jaws. With the turning of the screw the operator may recognize a sharp cracking, or softer crushing sensation, according to the nature of the calculus. Having screwed the male blade well home, the trigger is to be slipped by a motion of the right thumb, and the jaws again separated. Rotate the shaft so that the open jaws are turned laterally to the spot where the stone was first seized, and then close them. If the stone was large enough originally to make fragments of any size, no trouble will usually be experienced in catching one, when the same maneuver as before being repeated, the screw power is applied and the fragment reduced to powder. The number of crushings at one sitting must be determined by the time occupied, and the fact is, that great danger at this stage of the operation results from the surgeon yielding to the temptation to continue the crushing process too long.

But what if the stone is not met in passing the lithotrite to the back of the bladder? Simply this, the jaws of the beak being opened, they are inclined to an angle of 45° on the right side and then closed, when, if the calculus is not caught, the same maneuver is to be repeated on the left side. If the stone is not encountered on either side the operator repeats the procedure, opening and closing the jaws, after inclining the beak to a horizontal direction, first on one side and then on the other. If the position of the patient be properly regulated, the stone will be

caught in one or the other of these maneuvers—the only conceivable condition of the parts in which the stone could evade the jaws of the lithotrite under these circumstances, is one in which considerable enlargement of the prostate body coincides with great depression of the walls of the bladder behind it, while the *bas fond* is separated from the prostatic sinus by marked elevation of the tissues in a ridge-like form at the neck of the bladder. This state of the parts is readily recognized, and not only requires special preparatory treatment, but a peculiar series of movements with the lithotrite in order to grasp the stone; the instrument may have to be "reversed" in order to catch it. To do this, the beak of the lithotrite, by rotation of the handle of the instrument, is swept around a half circle until it looks directly back towards the patient's rectum. In performing this maneuver, the handle of the lithotrite is depressed between the thighs of the patient, changing the oblique direction of its shaft until it is in line with the patient's body. This movement so inclines the beak of the instrument towards the center of the bladder that, while in its cavity, there is little danger of rough contact with the vesical walls. Very often this rotation causes contact with the stone, and enables the operator at once to seize and crush it. If not, he should carefully follow something like the following plan:- Having opened the jaws of the lithotrite in the same manner as when the instrument occupies the natural position, incline them to one side at an angle of 45° and carefully close them. If nothing is encountered, open as before, incline them to the same angle on the opposite side and again close them. Should both movements result in the negative, while the lithotrite still occupies the reversed position, gently withdraw the male blade until it is almost in contact with the prostate, the widely opened jaws of the instrument being vertical, and while the male blade is firmly held in this position, the female blade is gently drawn home, the handle of the lithotrite at the same time being raised, so that the extremity of the female blade may impinge upon the floor of the bladder throughout the whole extent of the journey from the posterior wall of the bladder to the urethral outlet of that organ.

If one will but frame before his mind's eye a diagram of the bladder, and follow in imagination the movements of the lithotrite in the upright and reversed positions as they have been described, he will see that the beak of the instrument passes so

completely over the space enclosed by the walls of the bladder that no calculus however small, if loose in the cavity, could evade contact with it. When these maneuvers have been executed and no stone has been found, the examiner knows that either there is no stone in the bladder, or the case is one of those rare instances of encysted calculus which no method of exploration can always diagnosticate with certainty.

In certain cases in which the stone is small, the urethra capacious and healthy, and the crushing process very complete, the patient may be entirely relieved by the first operation. But such cases are very rare, and in the majority of instances the primary crushing will have to be followed by a number of repetitions of the process. The duration of the interval between the first and second operation will depend upon the reaction following the first crushing, especially the influence it exercises on the temperature curve and in some measure upon the quantity of material which the urine brings from the bladder. It is at this stage of the proceedings that the surgeon derives information from his temperature observations at the commencement of the preparatory treatments and is materially assisted by his knowledge of the patient's susceptibility to remedial agents, especially opium. In many individuals opium exercises a peculiar influence upon the urinary organs, especially the bladder. An ordinary dose not infrequently renders the bladder of a healthy man so indisposed to contract, even when filled with urine, that repeated efforts are required to void its contents. On several occasions I have been compelled to use a catheter upon individuals with healthy genito-urinary organs who have taken opium for the relief of pain. The local application of morphia for the relief of hyperæsthesia of the urethra and vesical mucous membrane has occasionally been followed by temporary atony of the muscular fibers of the bladder walls. The speed with which succeeding crushings follow the first operation will in a measure depend upon the patient's reaction to this drug, for it supplies the surgeon with an admirable method of regulating vesical contractility and controlling spasm of the bladder. Although, as a rule, the fragments resulting from the first crushing are too large to pass the urethra, yet they may have sharp points and edges, and it is quite desirable that the walls of the vesical cavity be prevented embracing them tightly. The reaction of the bladder to pressure above the pubes, the color of the urine and the quanytit

of pus voided with it, but above all the return of the temperature curve to its natural outline, will serve to determine the length of time that will be required to elapse before the lithotrite can be again used. As soon as the elevated temperature and local irritation has sufficiently subsided the fragments can be sought for and crushed. The surgeon's experience during the preliminary treatment and first crushing is now peculiarly valuable, and enables him to seize upon the remaining fragments with ease and certainty. The knowledge he is continually acquiring relative to the tolerance of the patient's bladder will be of the greatest value to him in fixing the time for subsequent crushings. When operations are conducted with gentleness each one is better and better borne. The irritation of the bladder continually diminishes and the intervals between the calls to urinate gradually grow longer. At length pieces of stone and particles of sand cease to pass and the surgeon finds that no more fragments remain in the vesical cavity, so far as he can determine by the employment of the lithotrite. This very satisfactory condition may be attained as the result of one operation in certain rare cases, but as a rule from five to fifteen crushings are necessary to remove an ordinary stone.

There are certain contingencies which may arise that have not been alluded to and cannot be dwelt upon in a paper like this. The following *resumé* is quoted from Sir Henry Thompson's work entitled "Clinical Lectures on the Urinary Organs," and is a brief enumeration of the different contingencies the lithotritist must be prepared to meet. He says: "The first contingency is fever; the second, bleeding; thirdly, cystitis; fourthly, orchitis; fifthly, retention of urine; and lastly, exhaustion, which is sometimes fatal. A peculiar kind of feverish attack is, as you know, common after all instrumental operations on the urethra. The phenomina of cold chill, dry, burning heat and sweating, proceeding in this order, more or less severely. Do not meet these symptoms by a too active treatment; I know none of much service: when a patient is thirsty, give him drink; and don't press food on him until he is somewhat disposed for it. Rely on it, what we call fever here, is nature's struggle against some poison in the course of elimination; only take care that the hygienic conditions are good. After the attack, he is weak and requires good and nourishing food. Bleeding is rarely troublesome, and does not require much treatment. Cystitis gives a little trouble

occasionally, and is to be treated in the ordinary way. Inflammation of the testicles requires you to desist for a time from operating; chronic retention of urine is apt to occur very insidiously—not absolute, but partial retention. Always look out for it, if frequency of micturition increases, and the urine becomes increasingly thick, and if the bladder is not emptying itself, you must pass the catheter once or twice a day. Sometimes exhaustion occurs, after a number of sittings the patient's strength gives way. That, however, is very rare."

Reports on the Recent Progress of Medicine.

SURGERY.—[FROM THE GERMAN.]

BY F. J. LUTZ, M. D., Collaborator for the JOURNAL.

CONCUSSION OF THE SPINE. From the *Medizinische Jahrbücher der K. K. Gesellschaft der Aerzte*, of Vienna, we make the following abstracts:

At the meeting of the Society held on the eighteenth of April, Dr. Obersteiner, Jr., read a paper on "Concussion of the Spine." He limits the term to cases in which the functions of the cord have been altered by violence sustained by the spinal column directly or indirectly, either by one single shock or else by repeated applications of some force, much less vehement, not resulting, however, in any demonstrable or supposable anatomical changes in the organ. Hence he supposes that the functions of the cord may be interfered with by some insignificant but continuous concussion, such as conductors on railroad trains are said to suffer, from the continuous shocks which they receive whilst in a standing position.

Violence which produces the phenomena of spinal concussion suddenly may be a fall, a blow or the like, a gunshot wound of the spinal column or a railroad accident.

The symptoms may be latent for a long time, even for several years. In twenty-two out of sixty-three cases, there were no

symptoms which indicated grave lesions of the cord observed immediately after the infliction of the injury.

In 31.6 per cent complete recovery took place.

He reported two cases, one of which ended fatally and in which 6 cm. of the dorsal portion of the cord were found softened, and numerous small myelitic foci were found in different parts of the cord.

In the discussion which ensued Prof. Heschl called attention to the fact that in concussion of the brain the ganglion cells often undergo calcareous degeneration, which does not occur in concussion of the cord.

REMOVAL OF BOTH OVARIES FOR HYSTERO-EPILEPSY.—At a subsequent meeting Dr. Welponer exhibited a woman from whom both ovaries had been removed on account of hystero-epilepsy. She is thirty-six years of age and has never menstruated. In her twentieth year she began to suffer with epileptic attacks, which recurred regularly every four weeks for fifteen years and of late every three weeks. After trying the various nervina in vain and submitting to local treatment of the uterus, even including bilateral hysterotomy, without any beneficial result, she came to the clinic of Prof. Braun Fernwold in May last. It was found that the uterus was retroflected and its walls thinned. Both ovaries could be easily handled. She was again subjected to various modes of treatment, but unsuccessfully. The ovaries were finally extirpated after Hegar's method; four months have elapsed since the performance of the operation and as yet no attack has occurred.

REPRODUCTION OF THE TIBIA AFTER ITS REMOVAL FOR OSTEO-MYELITIS.—Prof. Weinlechner presented a youth sixteen years of age who suffered with acute osteo-myelitis of the whole diaphysis of the left tibia in October last. After four months a pneumonia set in, in which condition he was admitted into the Rudolfspital. Amputation was proposed after he recovered from the pneumonia. This, however, was objected to by his friends and Weinlechner removed the whole necrotic diaphysis. The soft parts of the leg hung loosely about, all the muscles were laid bare, but the condition of the patient soon improved, suppuration decreased and in twenty-one days osseous neoplasm had filled the space. Five months have elapsed since the operation

was performed. The patient can now completely stretch his knee, which was formerly contracted, and can bend it to an angle of 50°. A few fistulæ still exist between the upper epiphysis and the diaphysis. About nine centimeters above the ankle joint there is a pseudarthrosis, showing that the bone is not yet quite consolidated.

EPIDEMIC TETANUS.—In the girl's school at Gentilly, near Paris, which is frequented by one hundred and fifteen pupils, a strong, healthy girl, ten years of age, was taken sick on the 15th of July, 1876, with symptoms which Maguan described in the meeting of the Société de Biologie, held November 22d, in the following manner: A sensation of numbness, formication and pricking preceded the *contraction of the fingers*. The fingers became stiff, and were semi-flexed; the thumb was firmly pressed against the index finger; the forearm was fixed, and the muscles on its anterior surface were prominent. The patient complained of *pain* in the wrist, elbow, and occasionally in the shoulder. The hand could be opened only by the use of great force, and was closed so soon as the force was relaxed. The contraction was not continuous, but occurred in paroxysms at irregular intervals for four days. Each paroxysm lasted from one-half to one hour. During the interval the arm behaved normally, only the numbness and the discomfort remained. Towards the latter part of July the symptoms disappeared. During the month of August short paroxysms occurred in the right hand; in September none appeared. From the 15th of October to the 10th of November the right arm was again attacked. The pain was more severe; the paroxysms were longer and more vehement than before, some lasting all day. On the 11th of November the contractions of the arms were diminished, but appeared in the right leg, the foot being extended and slightly adducted. This lasted for five days. and finally subsided; on the 21st of November the child was perfectly well. Two other pupils were attacked in October, and two in November, and quite a number followed suite, so that nineteen girls were sick on the 14th of November, eight of these being taken on the same day.

The course of the disease was the same as in the cases described above; sometimes only an arm and a leg, sometimes both legs were affected. One case began with the loss of consciousness and rolling of the eyes; in others, there were illusions·

The appearance of the disease created a panic in the school; fear and involuntary imitation increased its spread; but neither in the village nor in the neighboring school for boys, containing one hundred and fifty pupils, did any case occur. On the 15th of November the school was closed, after which time the patients rapidly recovered, and no new case occurred. One girl was treated in the Children's Hospital by Jules Simon, and made a rapid recovery. The treatment consisted in the use of galvanism and stimulating frictions.—[*Irrenfreund, No. 7, 1879.*

TREPHINING IN EPILEPSY DUE TO INJURIES OF THE SKULL.—Although much has been written on this important and interesting question, yet surgeons differ as to the value of trepanation as a curative agent. Echeverria has made a most valuable contribution to the literature of this mooted subject. He bases his deductions, which will be found further below on 145 cases of trephining, taken from the statistics of Stephen Smith, Rosell, James Boutelle and others, together with five cases which came under his own observation.

It is well known that cranial injuries are of considerable importance in the etiology of epilepsy, especially such injuries which entail constant cerebral irritation. Sometimes epilepsy results soon after the injury; usually, however, the disease appears after a number of years. Thus, in 618 cases, whose previous history Echeverria learned, 63 (44 males and 19 females) were of traumatic origin. Of these, 3 became epileptic immediately after the reception of the injury, and 6 in between two and five days. Of the 145 that underwent the operation of trephining, 15 were attacked with epilepsy within twenty-five days after the infliction of the injury.

According to Echeverria, there appears to exist no relation between the time which elapses between the trauma and the appearance of the disease, and the extent and nature of the injury.

Pericranial and cranial injuries may cause epilepsy, and our author points out that the pericranial injuries are frequently lost sight of as causes, and relates three cases which came under his own observation, and which illustrate the happy results following the treatment, based upon a correct diagnosis.

The podromata which as a rule precede an attack of traumatic epilepsy are: Headache, dizziness, localized pain, twiching of the limbs before going to sleep, a sudden concussion of the

entire body, change of character, loss of memory, drunkenness.

The following are the conclusions arrived at by Echeverria:

Trepanation is the best remedy for epilepsy due to injuries of the cranium.

Primary operations are as successful as secondary ones. Fever is a contraindication; mental aberration and paralysis, on the other hand, justifiy operative interferences.

Even in cases in which syphilitic diseases of the cranial bones resist specific treatment, and in which the epilepsy is caused by the diseased bones, he advises trephining.

The figures given speak for themselves. Of 142 cases trephined 93 recovered: 29 improved; 1 case grew worse; in 5 cases no result was obtained; 28 died.

Of the 17 primary operations, 3 ended fatally; of the secondary 25 succumbed.—[*Archiv. fuer Nervenheilkunde.*

Translations from the Portuguese.

NOSOLOGY OF ST. MATTHEW (BRAZIL). By DR. HORMINDO LITE. Translated from the Portuguese of the *Gazeta Medica da Bahia*, of July, 1879, for the JOURNAL, by Jos. WORKMAN, M. D., of Toronto, Canada.

The town of St. Matthew is six or seven leagues distant from the mouth of the river St. Matthew. Its particular products are coffee and mandioca (cassava), which is cultivated for its farina. The river St. Matthew is very tortuous and narrow, being at the most only 180 feet wide along the front of the town, and its margins are covered with a shrub, there called *cataia*. On the front of the town there is a plain, which is the terminus of a road on the north side, and this flat, on occasions of overflow of the river, remains, as do all similar margins, inundated. When the river returns to its bed the vegetation of the flats, now putrid, exhales under the sun's heat miasmas, which, mixed with those of the extensive pool bed, are carried to the town by the north-east wind, which is the predominant aerial current. On these occasions the marsh fevers prevail endemically.

The town is eminently insalubrious and it suffers accordingly. At a very remote epoch (before the culture on a large scale of coffee, and the use of the sulphate of quinine, the propagation of which in opposition to popular prejudice, was due to the illustrious Dr. Graciano Santos Neves, an ancient and intelligent physician, now retired), marsh fevers were here spoken of as the *carreiradas* of the coast of Africa.

Merchant ships anchored in the river were often unable to proceed on their voyage in consequence of the loss of their crews by visitations of these fevers. The principal malady is very often intercurrent or secondary, and complicates almost all other diseases. The marsh miasma, accumulated in the organism, breathes forth an occasional or determining cause, which produces the explosion; thus it is that on many occasions there is no need of a primitive morbid state; it often suffices that a sleepless night, a long ride on horseback, may serve as the determining cause of the appearance of the intermittent fever.

On other occasions, far from complicating a prior disease in its commencement, it explodes in the convalescence, because, probably, this condition augments the tendency of the organism to miasmatic absorption. The absorption of miasma by the respiratory mucous tract, is not the sole source determining these fevers, by its entrance into the current of the circulation, though this is the most active and frequent cause of marsh empoisoning, yet we must not exclude the great influence of absorption through the gastro-intestinal mucous tissue, as an adjuvant, or determining agency. Thus we hear individuals ascribe, as causes of their fevers, the ingestion of marsh water, and others the ingestion of fresh beef as cause of relapse.

When I commenced practice here, unacquainted with the customs of the residents, ignorant of the conditions peculiar to the locality and the general influence of the climate and its medical geography, I was always opposed by my patients in my instructions as to diet; they stoutly resisted to use beef soups or milk, because, as they said, such aliments, always acted badly when they were attacked with intermittent fever, or if they were convalescing from any form of disease, and they fell into relapse. This fact was often presented to me, and I was myself a victim to a light intermittent in consequence of the use of milk. From that time forward I gave credence to the statements of my pa-

tients, and the fact ceased to surprise me when I found that the wandering cattle generally grazed in the marshy parts.

Because of the herbs in the wet grounds, on which the cattle feed, it is unsafe here to drink the crude milk, as it produces dysenteries, sometimes of very grave character. With the knowledge of these facts, I always took care, and I still do so, to combine the treatment of my patients, unless there was some counter indication, with the sulphate of quinine, or even with arsenical preparations, and to prohibit altogether the use of such aliment as might expose them to the complications of intermittent fevers.

Speaking of the ready complication of diseases by the marsh element, I cannot omit the following fact. Many individuals who, having long been victims to marsh empoisoning, finally became cachectic and anæmic, under the influence of a few doses of ferruginous preparations which I prescribed, were attacked by intermittent fevers; suspension of these preparations alone often sufficing for disappearance of this disease. The endemic marsh fevers in St. Matthew, when they attack robust persons or when they are not cut short in their course, take on a pernicious character; I have seen one patient die in four days and a child of two years in the like time. In both, the termination was in coma, which in the former case was preceded by shiverings and a nervous excitation to such a degree that the patient shouted horrifyingly, got out of bed and wished to rush out on the street; in the latter case the coma was preceded by convulsions, sufficient to move the heart of the most stoical.

The medication employed by me in intermittent fevers of the pernicious character, was principally the sulphate of quinine in large doses, amounting to more than 10 grammes daily (*155 grains*), ordering frictions of this medicine to be made over the spine, the groins and the axillæ; administering clysters every three hours, each with one or two grammes of the quinine, together with hypodermic injections containing one decigramme, at like intervals. As adjuvants I employed the valerianate of quinine, and infusions of quinine and arsenious acid.

By such medication, advised by all practitioners, and interposing in cases of necessity, local bleedings, I succeeded in saving a patient in pernicious fever, in a second accession of ataxic form; his exhaltation reached so high a point as to cause him to vociferate and assail everything and every person; he got out of bed, attempted to rush to the street, and twice he battered he do[illegible]

with a heavy stick, in order to get through. The fever terminated with a sweat so profuse that in order not to augment the extreme debility, into which he had been brought in six days, I was obliged to sustain him. I ordered his removal to a hard bed, with only a sheet for covering, and I persevered with frictions and substantial aromatics. He remained extremely depressed and profoundly anæmic, presenting on both arms the scars of the injections, and he was for some time subjected to a tonic medication, consisting especially of preparations of iron and quinine.

As natural complications of marsh fevers, hepatites and splenites are here noted in fearful proportion. I had occasion to treat a person attacked with marsh fever whose left hypochondrium was as hard as a table, occupying almost the whole of that region, without having produced ascites. Children of one or two years are here victims of hepatitis, which supervene after occasions of intermittent fevers, by which they are much tormented, but above all, as a complication of whooping cough, which is one of the most common causes of the great mortality of children. Whooping cough, when, as many other diseases, epidemic, does not, as I was informed, spare adults. It is, in its turn, one of the torments of children, who rarely, or never, escape paying tribute to it and remain for years sufferers from its consequences. The reason of the great mortality of children suffering convulsive cough is the complication most usually presented of intermittent fever and bronchitis.

One of the torments of women, both married and single, is leucorrhœa or amenorrhœa, due probably to alimentation, which is here never good. In less than two months I have had to treat more than twenty women suffering from amenorrhœa or leucorrhœa, or from both—a number sufficient to cause surprise in so small a town.

Menorrhagia is also very frequent. It complicates labors in a remarkable manner; these are sometimes very difficult, apparently owing to frequent journeys on horseback, which the women have to make in business visits to the town.

Abortions are not rare. The people attach much importance to canoe passages as the cause, because some women have aborted after them. Be the cause either horseback traveling or canoe voyaging, abortion is very common here. I do not attach much importance to such alleged causes, and I believe that if the cano

voyages produce abortion, it is not by the physical impression that they do so, as the people believe. It is my opinion that it is sometimes the moral shock which women, naturally timid, suffer when they journey on the water, which is the most direct, or the approximate cause, of abortion in such circumstances.

A fact which caused me some astonishment is the frequency of gastralgia, which, like the intermittent fever, often complicates other diseases. I have seen robust and strong individuals attacked with gastralgia, which proved rebellious to all treatment. Dysentery is very common, and when epidemic, it causes great mortality.

I should not omit to state that few, very few indeed, are the individuals who have their teeth perfect, consequently dentists abound. It is painful to see little things of eight or ten years without their front teeth, and those of three or four years suffering excruciating toothaches. I believe that bad alimentation is the chief cause of these toothaches so common in St. Matthew.

In concluding these trivial nosological observations, I may allude to a pathological state, of which some Brazilian physicians have treated without having yet finally solved the question of its pathogenesis. I refer to *Beriberi*, which here attacks principally the slaves of the haciendas, and according to the information given to me by my predecessors in practice, few cases came under their diagnosis in the town. I was constrained to verify this fact from observing that the slaves or free persons who labor in the marshy parts are those whom beriberi especially attacks. This explains why the disease is rare in the towns, where the slaves or others are not engaged in work in marshy places, as in the haciendas.

There is a locality a little out of the town where some patients who contracted the disease informed me that drinking of the water which ran there was sufficient to induce it. Many slaves of one hacienda were attacked, whilst those of a neighboring one were exempt, which statement, if accredited, would seem to show that the beriberi's miasma is not of such ready extension as the marsh miasma; or that it becomes limited by the abundant flower growths, which all know to be one of the modifiers of the propagation of miasmas. Do these facts support the belief that beriberi is really a disease of marsh origin? The indication most usually acted on here is that of sea voyages, which are followed by the best results.

Translations from the French.

NEW MODES OF SURGICAL TREATMENT. ("Histoire de la Chirurgie Francaise" par le Docteur JULES ROCHARD. Edit. 1875, pp. 639, *et seq.*) Translated for the JOURNAL by B. A. WATSON, M. D. Surgeon to Jersey City Charity, and St. Francis' Hospitals, Jersey City, New Jersey.

III. TREATMENT BY OCCLUSION.

We designate, by this generic expression, all modes of treatment the object of which is to protect the wounds from contact with the air, whether they accomplish this by immediate union, by employing an impermeable cover applied to the wound, or by enveloping the injured part in an artificial atmosphere.

1st. NEW MEANS OF IMMEDIATE CLOSURE.—We have already expressed our opinion as to the injurious influence that the atmospheric air exercises on all surfaces which nature has not covered with an epithelial protector. We have alluded to the advantages of sub-cutaneous operations and immediate closure. No one will be surprised to see us place in the first rank the means that the surgeons of our times have invented or perfected for the attainment of this object, so ardently sought during the last half century. When this method found favor in France the means of obtaining it were limited enough. Sutures had been almost abandoned, and deprived of this powerful means of obtaining coaptation, the surgeon had at his disposal only diachylon, which was used exclusivcly in France, and isinglass plaster, which was preferred in England. Contemporaneous surgery remedied this poverty of resources and three new means for obtaining the closure of wounds have sprung up during the last twenty-five years; the collodion, the serres-fines, the forceps for graduated pressure, and finally, metallic sutures.

Collodion.—Collodion is a solution of pyroxylin or gun-cotton in a mixture of sulphuric ether and alcohol. The discovery of

this substance goes back to the commencement of the surgical period which we are reviewing. When, in 1846, Schoënbein made known the preparation of gun cotton, all the chemists hastened to study this remarkably product, and Baudin recognized its solubility in ether, without drawing therefrom any practical deduction. It was a medical stu lent in Boston, John Parker Maynard, who made the first application of it in surgery.[1] He employed it to unite simple wounds, and Dr. Whitney adopted it immediately. This news spread to England and Simpson utilized collodion in the treatment of fissure of the nipples. Malgaigne was the first who employed it in France; he had become acquainted with it through the English Medical Journals, and on the 29th of August, 1848, he made it the subject of a communication to the Academy of Medicine.[2] From this time collodion became the object of a general infatuation. The important question was who would discover some new properties in it, who would invent some new method of using the dry suture.[3] This reputation lasted about ten years; since 1857 we have seen attempts made from time to time to extricate it from oblivion, but they have been foiled by general indifference. In a memoir published at this time, Gayraud of Aix, justly estimates its advantages.[4] Collodion is a valuable agent for the purpose of uniting recent and superficial wounds, very valuable for superficial erosions of the hands, and also for the protection of the small wounds through which surgeons and anatomists are so frequently poisoned. The thin pedicle that is left behind on drying is insoluble in all the liquids, is extremely adherent and protects the denuded derma against inoculations to which we are exposed at every moment. It is rendered more elastic and less retractile by the addition of a tenth part of castor oil; it constitutes the best application that one can make on the parts threatened with ulceration and gangrene by prolonged dorsal decubitas. It has been used with advantage for the protection of fissured nipples and to permit nursing to continue. It has been used in diseases

1. John Parker Maynard (de Boston), *American Journal of the Medical Sciences*, April, 1848.

2. *Bulletin de l' Académie de Médicine*, t. xiv, p. 1872.

3. Ch. Sarazin, article Collodion, du *Nouveau Dictionnaire de Médicine et de Chirurgie Practiques*, viij, p. 726.

4. G. Goyrand, d' Aix, *De l' emploi du collodion comme de moyen reunion des plaies. Gazette Médicale* de Paris, 1858, t. xlij, p. 778, 789.

of the eyes for the purpose of keeping the lids closed; finally its retractile force has been utilized for the purpose of bringing together parts possessing a tendency to separate, to resolve glandular engorgement. It has been resorted to in the treatment of orchitis, varicocele, erysipelas, burns, chilblains, in diseases of the skin, peritonitis, etc. But these last applications, of somewhat doubtful utility, have no bearing on our subject. We shall delay no longer on an agent too much discredited perhaps, at the present time, but which has in fact only moderate importance.

Serres-fines.—The serres-fines were invented by Aug. Vidal, of Cassis, in 1849. At first they were designed only to unite the flaps of the wounds left after circumcision. These little pincers with crossed arms, drawing themselves together like the smoker's forceps by the elasticity of the metal, were armed at their extremities by sharpened teeth, which seized the skin without penetrating it. The first that he had made by Charriere and that he presented to the Society of Surgery, were too heavy and were kept in place with difficulty;[5] they only half succeeded in a trial that he made with them at the "Hôspital du Midi" in the month of August, 1849, in the presence of Morel-Lavallie, Danyau and Cullerier.[6] He then had made by Lüer the ones which are now found in all surgical cases.[7] Lighter, smaller, more elastic and more easily managed, as they are made of silver. They fulfilled very completely the object proposed by their inventor and he was able to extend their application to more important operations. He has made six models of different sizes and powers, by ranging from the fly-foot serre-fine intended to unite superficial wounds of the face, prepuce, etc., to the large serre-fine, like the forceps of the oculists, which was reserved for cases where the object was to embrace with the skin a certain thickness of the tissue. By varying the size, the shape and the direction of the jaws, by multiplying the number of the teeth, Vidal has succeeded in giving to his small instruments the necessary qualities to supply the place of sutures under certain circumstances.[8] The uses of the serres-fines were very

5. Vidal, de Cassis, *Traité de Patholigie externe*, t. I, p. 174, fig. 76.

6. *Bulletin de la Societe du Chirurgie*, t. I, p. 318.

7. *Bulletin de la Societie de Chirurgie*, t. I, p. 407 et 460. Vidal, de Cassis, *Traite de Pathologie externe*, t. I, p. 174, fig. 77.

8. Vidal, de Cassis, Traite de Pathologie externe, t. I, p. 176, fig. 78.

promptly popularized; it is at all times a very convenient instrument, which acts by bringing together the borders of wounds situated in a region where the skin is delicate and only slightly adherent, as that of the prepuce, scrotum and eye-lids, as well as in those cases where it is necessary to apply the skin to a mucous membrane; they are also very convenient for the arrest of slight hemorrhages following leech bites; in a word, we can fulfill with this instrument a number of minor indications, of which each practitioner can multiply the number, and for this reason it will remain in use as a valuable invention.

Pincers à Pression Continue et Graduée.—The serres-fines, acting only by the elasticity of the metal, exerted always the same degree of pressure, without permitting this pressure to be modified. Debout has united the two arms by a screw and has modified the sharpened extremities.[9] Marcellin Duval, on his side, has invented the *pincers à pression continue et graduée*, which permits the approximation of the parts without penetrating the skin. These instruments are constructed on the same principle as his compressors. Thus: long, flattened arms, furnished with a cushion of agaric, its large surfaces are applied on the skin and the screw which traverses the springs permits the graduation of the pressure at will. The application of these forceps is very easy and they cause no pain. They are especially useful after amputations performed according to the excellent procedures of the author; they hold in apposition the musculo-cutaneous flaps, thereby obtaining union of the whole extent of the cut surfaces that it is possible to approximate, without preventing the escape of the fluids from within. In case of hemorrhage the surgeon can examine the wound without tormenting the patient; he may easily increase or diminish the pressure, as may be required, by a simple turn of the screw. In all these conditions the forceps with graduated pressure are very much superior to the cork compresses used by Langier to maintain the flaps properly approximated after circular amputations.[10] Finally we may use

9. Gunjot et Spillmann, Arsenal de la Chirurgie, contemporaine, t. II, p. 222, fig. 705.

10. Marcellin Duval, Atlas general d'anatomie descriptive, topographique, etc., et de medicine operatoire, avec considerations relatives, à la pathologie interne, et à la pathologie externe. Brest, 1853, in. 4. p. 9 planche, fig. 11. Gaujot et Spillmann, loco cit. t. II, p. 223, fig. 706.

them advantageously as small compressors in certain cases of arterial hemorrhage and particularly in the wounds in the palm of the hand.

Metallic Sutures.—Metallic Sutures were reintroduced into surgical practice thirty years ago. Like many other useful things they had fallen into disuse when the Americans commenced their labors on vesico-vaginal fistula. The silver wire is one of the perfected details, which, taken together, constitute the excellent method they have shown us. It is Marion Sims who has principally contributed to make its use general. The idea of curing vesico-vaginal fistula occurred to him in 1845, and after four years meditation, with successive attempts and failures, he finally determined to employ silver wire sutures, and to them he owed his first success. The operation took place in 1849, but the observation was only published in 1852, and the author in his memoir claimed, among other discoveries, that of the employment of metallic sutures.[11]

The success that he had obtained by this means of union tended to generalize its employment in analogous cases, and in 1858, in a discourse delivered before the New York Academy of Medicine, he defended his claims in terms so pretentious that they raised unanimous protestation in America and England.[12] He there presented the *silver suture as the greatest surgical achievement of the nineteenth century; as one of the most beautiful examples of inductive philosophy.* If surgery had only needed to crown its work, that the silver suture should be substituted for the silk or twine, the edifice would have been completed almost three centuries ago. Ollier has demonstrated, in a memoire[13] of very great interest, that Fabrice d'Aquapendente had used iron and brass needles rendered flexible by burning charcoal, and which he passed through the lips of the wound, bringing together the two ends and twisting them together. He had understood and described all its advantages, and the moderns have added nothing, not even the example so frequently cited of passing gold rings through the ears. Percy has also used sutures of wire;

11. *American Journal of the Medical Sciences*, 1852, 2d series, vol. XXIII, p. 59.

12. Marion Sims. Silver Sutures in Surgery. [The Anniversary Discourse before the New York Academy of Medicine, 1858.]

13. *Gazette Hebdomadaire*, 1862, t. IX, p. 135, 181, 261, 359.

he had even tried to render them more resisting by using a gold or platinum wire as a center, and he has pointed out with extreme precision their advantages and the means for their application to the form of the parts. The lead sutures were employed anew in the year 1826 by Dieffenbach in the operation of staphylorraphy. He gave the preference to this metal because it twisted more readily than the others. In 1830 Mettauer, of Virginia, had also recourse to the lead in the performance of the operation for vesico-vaginal fistula. Finally, in 1834, Dr. Gosset, of London, employed the gilded silver wire for the same object.[14]

The metallic sutures had consequently been known and used a long time in America, as well as in Europe. A little biographical study would have saved Marion Sims' fruitless attempts, long trials, and would have cured him of his pretentions. Nevertheless, we hasten to say, that if these antecedents sufficed to deprive the American surgeon of the title of priority which he arrogated to himself, they do not diminish in any manner the real merit of having restored and popularized an excellent practice. Its advantages were immediately understood, and its reputation and use spread rapidly in America and England.

In France the metallic sutures were not known till Bozeman, a student of Marion Sims, demonstrated in Paris the superiority of the American proceeding in the operation for vesico-vaginal fistula. In spite of the brilliant success obtained by this operation, and the homage that they hastened to render to him, metallic sutures were not received with the same favor as abroad. Whilst recognizing their advantages in the special case which had caused their reintroduction, all the surgeons did not appear convinced of their absolute superiority over the methods then in use. In the course of the discussion to which they gave rise at the Society of Surgery, July 31st, 1861, Richet and Bauchet appeared but little in favor of them. They claimed especially that the silver wire suture cuts the tissues more rapidly than the vegetable.[15]

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14. Voyez pour les details historiques. 1st Ollier, Mémoire cité. 2d. A Verneuil, Des perfectionnement apportes à l'opération de la fistule vesico-vaginale par la chirurgie Americaine [*Gazétte Hebdomedaire*, 1859, t. VI, p. 1, 55, 119] 3d, E. Foelin, Archives Generales de Medicine, 1860, 5th série, t. XV, p. 457.

15. *Bulletin de la Societé de Chirurgie*, 2 série, t. II, p. 453. Sédillot et Legouest ne leur reconnaissent pas d'avantages bien marqués. [*Traité de Médicine Operatoire*, t. I, p. 139.]

In the month of December of the same year, Malgaigne made some comparative experiments, which have been reproduced by Labbe in his thesis on the treatment of genito-urinary fistula in females by the French method, and which were not favorable to the metallic sutures. It was then that Ollier undertook his researches. After having experimented comparatively with sutures of silver, lead, platinum and iron, he gave the preference to the last, which Simpson, of Edinburg, had first substituted for the silver.

Independently of its low price, iron has the advantage that it can be drawn into wires extremely fine and yet very resistant, owing to the tenacity of the metal. This property is most precious in the eyes of the able surgeon of Lyons, from whose experience it appeared that the finest sutures are the ones best supported by the living tissues. Those that he was in the habit of using for autoplastic operations are as fine as a hair, and yet they possess sufficient strength to be managed with perfect safety.[16] They require only a single precaution, which is, tightening the sutures to avoid mechanical section of the tissues by drawing on them too strongly. With this condition metallic sutures are, in his operations, superior to all others, and he proposes to substitute them for organic in all cases.

He has obtained with them the most excellent results in the treatment of purulent collections, and especially of small glandular abscesses in the neck. They are excellent filiform setons, which perform the office of a drain, which do not irritate the walls of the cavity which they traverse, and enable us to effect a cure without cicatrices. He recommends them even as ligatures for veins and arteries, and in the operation for varicocele. Ollier is not the only French surgeon who has adopted metallic sutures. Follin, Verneuil and Gosselin were from the first among its defenders. Courty, of Montpellier, Letenneur, of Nandes, use them in every case where sutures are indicated. We have been able, like them, to prove the superiority of these sutures in a certain number of operations. Their principal advantage is their impermeability. The organic sutures are impregnated with liquids which are altered by contact with the air, and so become irritant.

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16. Leur oxydation ne lui a jamais paru avoir d'inconvenients; toutefois, lorsqu'ils doivent séjourmer longtemps dans les parties, il choisit des fils galvanisés.

They are no longer a simple means of keeping the parts approximated, but they act as small epispastic setons which ulcerate and cut the tissue. The metallic sutures, on the contrary, exert on the parts only a mechanical action; when they are not tightened too much they remain indefinitely in the parts without producing inflammation, the same as lead balls and the fragments of glass.

Letenneur cites the case of a young girl who carried, during a year, without perceiving it, a silver wire suture that Dr. Thoinnet had applied after a resection of the inferior maxilla, and which he had forgotten to remove. Thanks to this inocuity, the number of sutures may be multiplied without inconvenience, and to secure thus a more exact coaptation. The rigidity of the metal renders it permanent, whilst the arch of the organic suture relaxes, becomes loosened, when ulceration has commenced, and no longer maintains the flap of the wound in contact. The metallic sutures, when the wire is very small, are applied and fastened with the greatest ease. We will spare the reader the description of all the instruments which have been invented to facilitate these maneuvers. The needle-holders of Simpson, Startin, Murrey, Michel, Péan; the suture-twister of Coghill; the metal plates, the buttons of various forms; the lead rings of Galli, Fabrizzi; the suture-adjuster of Bozeman—are all implements for some special operations, and we here refer only to the application of metallic sutures to the closure of wounds in general. We consider the use of metallic sutures highly advantageous, not only when employed in autoplastic operations performed within cavities, but for all those which require accurate approximation of the parts with a firm support, as in autoplastic operations on the face.

In very extensive solutions of continuity which follows the removal of voluminous tumors, their superiority is not so marked. We have, however, obtained the highest advantage following the removal of the breasts; voluminous lipomata where there remained enough healthy skin to allow of the approximation of the edges of the enormous wound. The quilled suture made with the silver wire and gum elastic bougies permits the approximation and supports the flesh during the time which cicatrization requires, and no other means has given us equally beautiful results. The coaptation is so exact that it results in an almost imperceptible linear cicatrix. We have also seen with

pleasure that the same idea has occurred to E. Backel, of Strasbourg, and that he has put it in execution in like manner.[17]

2ND. ARTIFICIAL OCCLUSION OF WOUNDS.—Immediate closure is the best of all means for occlusion, but it is not applicable to all solutions of continuity which are accompanied by a loss of substance, or considerable attrition; gangrenous wounds, and finally ulcers do not permit it, and it is to seeure the same benefit, it is to protect them equally against the action of the air, that surgeons have invented the modes of treatment of which it remains for us to speak.

EXCERPTS FROM LATE FRENCH JOURNALS. [Translated for the JOURNAL. By Dr. A. H. OHMANN-DUMESNIL.]

SUB-CONJUNCTIVAL CYSTS.—At a meeting of the French Society for the Advancement of Sciences, M. Fiewzal presented a report of two such cysts. In the one case he succeeded in enucleating an old hydatid cyst, the tumor being about the size of a large chestnut. After the operation there was a slight strabismus, due to the fact that the tumor had developed at the expense of the external rectus muscle. The other case was in a girl, three years old, who had measles with chest complications. The tumor threatened to open; upon being opened by the surgeon, there issued a little pus followed by a cyst containing a live cysticircus. The author considers these rare cases, but about twenty being on record.—*Progrés Médical*, Sept. 13, 1879.

MULTIPLE AMPUTATION—RECOVERY.—At the Academy of Medicine at Paris, M. Rochard related the following case in Dr. Leselenc's practice, at Brest. On May 27, 1878, Molé, æt. 32, was run over by a locomotive. The following wounds were found: a backward dislocation of the left elbow, the right thigh cut across and the left leg crushed. The thigh was immediately

17. Son procédé a été exposé devant la Société de Médicine de Strasbourg, a la sèance du 1st Décembre, 1859, et est dècrit dans la *Gazétte Hebdomadaire*, de 1860, t. VII, p. 115.

amputated and the dislocation of the elbow reduced. The leg was amputated on the following day. Eighteen days after, the arm had to be amputated on account of gangrene. The dressing was Listerian and together with a strong, nourishing diet, the patient effected a complete recovery.—*Lyons Médical*, Sept. 7, 1879.

FLOATING CARTILAGE OF KNEE-JOINT.—M. Leon Montaz gives an account of such a body being removed by a free incision into the joint, the opening being about five c. m. long. The body, which seemed of a fibro-cartilaginous texture, was of considerable size (about that of "the ovary of an adult woman"). It could not be removed by the ordinary method, on account of an external dislocation of the patella. The Listerian spray and dressing were adopted throughout, and, in the author's opinion, secured the complete success that followed. The union was immediate and no fever or disagreeable symptoms arose during the cure which followed.—*Ibid*, Sept. 14, 1879.

NOTES ON DIPHTHERIA.—M. Chas. Talamon, in a paper to the Société Anatomique of Paris, gives the following among many other valuable observations made in the course of 108 autopsies on diphtheritic subjects. He found present:

Labial diphtheria,	2
Œsophageal,	1
Stomatic,	1

(In these cases there was pharyngeal and laryngeal diphtheria co-existing.)

Of pharyngeal and laryngeal there were 99 cases, distributed as follows:

Pharyngeal,	27
Pharyngeal and laryngeal,	20
Pharyngeal, laryngeal and tracheal,	7
Pharyngeal, laryngeal, tracheal and bronchial,	31
Laryngo-bronchial,	8
Laryngo-tracheal,	1
Laryngeal,	5
	—99

In these 99 cases clots were found:

In the right heart,	90 times,
In the left heart,	82 times.

—*Progrés Médical*, Sept 20, 1879.

PROLAPSE OF RECTUM TREATED BY INJECTION OF ERGOTINE.—Dr. Videl, of the Hôpital St. Louis, says that he has achieved success by the above procedure in a patient suffering for over eight years from a prolapse of the rectum. He employed the injection of ergotine. In three months the cure was accomplished. Several other cases treated in the same manner were relieved in a much shorter time. At the hospital a female patient who had an old prolapse, was almost completely relieved after three injections.

The contractions induced by the ergotine extend to the bladder and determine a spasmodic stricture of the neck and dysuria. —*Paris Médical*, Aug. 28, 1879.

INTERNATIONAL MEDICAL CONGRESS AT AMSTERDAM.—Some 500 members were present at the meetings which took place from Sept. 8th to 13th. The following papers were read:

Stuttering, by Chervin, of Paris.

The influence of tobacco on the origination, prophylaxis and cure of scurvy, by A. Bertherand.

Beri-beri, by J. Van Leent.

Antiseptic method, by Lister.

Eye diseases and their relations to cerebral localizations, by Otto Becker, of Heidelberg.

Indications and contra-indications to operations in subjects having constitutional diseases, by Verneuil.

Regulation of prostitution and public health, by Robt. Drysdale.

Treatment of abdominal and petychial typhus by the douche, by Marcowitz, of Bucharest.

Physiology of reading, by Javal.

Protection of childhood against premature work, by G. Van Houten, of the Hague.

Propagation of miasmatic epidemics, by J. Van Geuns, of Amsterdam.

Medical education, by Virchow.

Tracheo-bronchial adenopathy, by Guiraud, of Menton.

Researches on the transfer of sensibility, by Eulenberg, of Greifswald.

SECTION OF MEDICINE.

Bright's disease and primitive cirrhosis of the kidneys, by Rosenstein, of Leyden.

Phosphaturia in pulmonary phthisis, by Stokwis, of Amsterdam.

The relations of syphilis and pulmonary phthisis, by Schnitzler.

Pathological anatomy of infantile spinal paralysis, by Damaschino and Roger.

Action of magnets in nervous diseases, especially in anæsthesias, by Ballet and Proust.

Relations of caranoma to the lymphatic system, by Mrs Hoggan.

The climate of Algeria in relation to consumptive diseases, by Landowski.

Bright's disease, by Semmola, of Naples.

Treatment of interstitial hepatitis. *Ibid.*

Cold baths in typhoid and continued fevers, by Brondgeest, of Utrecht.

Treatment of Phthisis, by G. Delaunay.

Syphilitic affections of the larynx, by Zaverthal, of Rome.

Contraction of Larynx and tracheotomy, *Ibid.*

Bronchial asthma, *Ibid.*

Phthisis in woman, by G. Daremberg.

SECTION OF SURGERY.

Sub-pubic lithotomy, by Van Goudœver.

Treatment of bloody tumors or cysts by injections of chloride of zinc, by Th. Anger.

Blepharoplasty, by Aniello D'Ambroso.

Operative treatment of aneurisms of the arch of the aorta, by Kuster.

Deviations of the skeleton, by Hueter, of Greifswald.

Non-syphilitic diffused periostitis of the bones of the face and cranium, by Le Denta.

Plaster jacket in Pott's disease, by Sayre, of New York.

Treatment of hernias for radical cure, by Tilanus, of Amsterdam.

SECTION OF BIOLOGY.

Development of cells, by Treub, of Uoonchoten, near Leyden.

Some modifications in the periods of the graphic method, by Marey.

Errors in the theory of resting-points, by Onimus.

Movements of the embryo chick, by Preyer, of Jena.

Muscular construction of the tail and claw of the crawfish, by Richet, of Paris.

Causes of sounds and noises in the vascular system, by Heyrsius.

On sphygmographic tracings, by Isebree Moens.

Differentiation in Biology, by G. Delaunay.

SECTION OF OBSTETRICS AND GYNÆCOLOGY.

Treatment of uterine fibroids, by J. De la Faille, of Leenwarde.

Prophylaxis of puerperal fevers, by Halberstma.

Pilocarpine and eserine—their action on the uterus, by Van der Mey, of Amsterdam.

New method for perineo-raphè, by Leblond, of Paris.

The place due to gynæcology in questions having relations to procreation, by Petiteau.

Extra-uterine lithopedion, by B. de la Faille.

Retention of the fœtus in the uterus, by Szczygielski.

Tetanus of newly born infants in America, by Coui.

Complete inversion of the uterus, by Forget.

SECTION OF PUBLIC HYGIENE.

Reconstruction of the City of Szegedin, by Grosz de Cszatar.

How to estimate the state of the public health, by Zeeman, of Amsterdam.

Pneumatic system of rendering cities healthy, by Palasciano.

Infantile mortality and premature death, by Allbutt.

The limit of public authority in regard to food stuffs, by Seelheim, of Utrecht.

Demography in the medical sciences, by Chervin, of Paris.

Choice of potable waters in the interest of public health, by Van Tienhoven.

Organization of public hygiene, by Belval.

Propagation of typhoid epidemics by milk, by Hart.

Methods by which governments can protect the populations against contagious diseases, by Van Overbeck, of Meyer.

Measures to be taken to suppress varioloid, by G. Dulaunay. —*Progrés Medical*, Sept. 14th, 21st and 28th, 1879.

Translations from the Spanish.

PORNOGRAFIA DE BUENOS AYRES. By JOS. WORKMAN, M. D., of Toronto, Canada, President of Toronto Medical Society.

Under the above title, which is, perhaps discreetly, not intelligible to old ladies of both sexes unfamiliar with Greek, Dr. Dupont has published in the *Revista Medica Quirurgica* a series of articles, demonstrating "the necessity of a Dispensary of Health and of a Bureau of Morals for the Regulation and Repression of Prostitution."

It is a fact of no unusual character that in some countries, claiming to be of superior civilization and advanced enlightenment, such pre-eminently as England and the United States, every administrative or legislative measure purporting to operate towards the regulation or supervision of a moral evil, which all the ages of the world have proved to be ineradicable, and which so long as organic and physiological laws continue to exist, will remain so, has met with the prompt and stern condemnation of the very class of the population most likely to be benefitted by the proposed measures.

The unreasoning aversion to interference with the realm of prostitution, evinced by virtuous, and in other relations, highly benevolent women, fostered by a few out of petticoats, of similar impracticality, is about on a par with their no less senseless abhorrence of animal vivisection. Can any intelligent and truly humane physician be found who will dare to deny that of all in society, women are the most directly interested in the adoption and energetic execution of any and every regulating or suppres-

sive measure, by which the propagation and spread of venereal diseases may be, if not indeed prevented, at all events beneficially circumscribed and controlled. Are we forever to breathe an atmosphere of sentimental mock modesty, reeking with the pestilent fumes of hidden constitutional rottenness, and year by year to witness the havoc revealed to only *our* eyes, of the most virulent and enduring pestilence ever sent as the penalty of sinning humanity? How many a loved, healthy, bright and pure girl, entering on conjugal life with every hope of happiness, may we not have seen consigned, in the lapse of a few years or even months, to worse—infinitely worse—than a living tomb, for, to be buried alive would be a relief, compared with that agony of enduring putrescence, she *and her offspring* are doomed to bear until the last flicker of life's lamp has cast its rays on the path to the friendly grave. Is this an overcolored picture of the devastations of syphilis? Verily it is not with the writer. It is drawn, not from the imagination, but from breathing, languishing, polluted realities.

The seventh chapter of Dr. Dupont's work is given in the first August number of the *Revista*, and perhaps you may not deem a translation of it unworthy of the requisite space in your columns.

"*Of the International Prophylactic Measures for the Extinction of Syphilis.*—That eminent and judicious English hygienist, Dr. W. Acton, in one of his masterly works, says: 'A day will come I hope, when among the other social questions, the measures necessary for the extinction of syphilis will be forced into discussion.'"

It is, then, with deep interest that I have (in previous chapters) passed in review the difficulties which must be encountered in the regulation of prostitution, and to witness what the nations, whether by individual initiation or in collective form, have done in this direction to accomplish the grand *desiderata* of hygienists and moralists.

It having been demonstrated that the law can neither recognize nor prohibit prostitution, which has its traditional causes, dominated by the dragging forces of the senses, which set reason at defiance, the nations have therefore recognized the necessity of enduring this perennial chronic plague of humanity, and some of them have been prepossessed by the intensity and the danger, every day augmenting, of the syphilitic contagion, but have considered their vigilance in regard to the public safety insuffi-

cient. Accordingly various initiative steps have been taken by physicians, hygienists and administrators, with the object of discussing collectively the prophylaxy of venereal diseases, and all the civilized nations were represented at a great medical concourse held in Paris in 1867. This, however, was not the first time that conferences of hygienists were occupied with this transcendental question. In 1835, 1843 and 1852, conferences were held in Brussels to discuss the same subject. In 1844, in Marseilles, in 1865 in Bordeaux, conferences were held on venereal affections and their general prophylaxy.

Before speaking of the labors of the First International Congress on the prophylaxy of syphilis, let us consider, under retrospective view, how long the countries and cities which sent delegates to the Congress had been occupied in the repression of the scandals and dangers of prostitution. We must reckon, however, by the antiquity of the organized services of the police which they maintained.

Paris was the first city to comprehend the necessity of having regulations to render effective a police of morals (costumbres); in prior chapters I have had occasion to record its history.

Lyons, Marseilles, Bordeaux, Lisle, Brest, etc., adopted as the bases of their system, the regulations of the metropolis, with improvements in certain parts.

In Brussels the regulation of the police of morals was promulgated on the 24th May, 1844. The regulation proposed in the name of the Belgic government in 1856, by the Superior Council of Public Health, served as the model for the communal authorities. This regulation, discussed and sanctioned by an assembly of physicians and administrators, is at present in force and is of true importance. It has given the most excellent results, since out of 1000 patients in Brussels, only 15 to 20 cases of chancre were noted. In Antwerp, a maratime and military city, only 50 syphilitics per thousand of sick are reckoned. Such was the first movement towards the adoption of an international regulation for the prevention of venereal diseases.

Hamburg has had its regulation of the police of morals since 30th January, 1834. It presents many imperfections yet uncorrected.

In Berlin, by decision of a royal presidency of police, of 18th December, 1850, a commission was instituted for a police of morals. The cities of the Hague and Rotterdam adopted some

time back the provisions of the Paris regulation. *No tax is imposed on the houses of tolerance. No payment is exacted for sanitary visits.*

In Turin a regulation for a police of morals, applicable to all the provinces of the kingdom of Sardinia, was published on the 20th July, 1855, by the Minister of the Interior, Mr. Ratazzi, but the city of Turin revised and perfected its regulation on 1st January, 1857.

The regulation of the police of morals of Madrid was published 5th November, 1865. It is under the direction of the Governor of Madrid. This regulation is of immense extension, covering over 30 pages in 8vo, as if the abundance of its provisions could replace the intelligence and activity of the agents.

In some cities of the United States, sanitary means analogous to those of Europe, were adopted in 1865. Without doubt, however, in the greater number of the cities of the great republic, prostitution is unrestrained and accordingly syphilitic infection is very intense, as the statistics of Singer, Barnes and Woodward show. Old and cultivated England, dominated by its determination of systematic abstention, which by virtue of its formalized religion has endured for ages, decided at length, in 1864, to repress prostitution when Dr. Holland estimated the number of prostitutes in Great Britain at 50,000, and calculated that syphilis was at that time affecting 1,652,000 persons of both sexes.

The law of July, 1864, "*The Contagious Diseases Prevention Act,*" which applied only to eleven naval and military stations, was notably extended by the act of 11th June, 1866. Public opinion was much disturbed in England by this new legislation. A vast association was formed among the ladies of the most select aristocracy, under the title of "*The Ladies' National Association for the Repeal of the Contagious Diseases Acts;*" this association had, and has yet, in 1879, its meetings, publications, books, journals, *tracts*, and its *daily*, "The Shield," besides its preachings. All this, destined to keep up the agitation in the minds of the people for the suppression of the public decrees, forgetful of the axiom that sanitary protection is the best promoter of the public health.

In concluding this review, before quitting the northern seas, I may instance Finland, which has held out *gratuitous medical assistance* for 25 years past to every individual attacked with venereal disease. In the large towns prostitutes are subjected to

a very severe vigilance. The sailors coming from strange ports must undergo a sanitary visitation before coming ashore.

In Sweden and Denmark syphilitics also receive gratuitous assistance. As regards the repression of prostitution, the question discussed by all those countries which met at the first International Congress was, "Is it possible to propose to the various governments any efficacious measures for restricting the propagation of venereal diseases?"

The productions presented were important, and of the highest interest, and gave place for the publication of a special and very complete work, edited in 1878, with the title, "*Le Congres Medical International.*" Among the scientific propositions made, we may cite, as worthy of curiosity, those of Drs. Didaz and Anzias-Turenne, recommending syphilitization, or to speak more clearly, a species of vaccination for inoculation of the syphilitic virus; and that of Dr. Cohen, who advocated circumcision of the newly born. Dr. Leon Lefort argued that consideration should be given to the augmentation of the number of houses of tolerance, in order the better to repress clandestine prostitution, because, as Dr. Seitz says, the excessive severities against prostitution force it into secresy, thus rendering it the more harmful to the public health. Dr. Jarin, in his turn, said that we should remove the barriers which impede admission of syphilitics into hospitals, and abrogate those large and odious formalities which, by retarding the entrance of the infected, aggravated their malady, thus fostering in them the virus for its reproduction, in destruction of both the present generation and the race.

The second International Medical Congress relating to the prevention of venereal diseases was held at Florence, in 1870. The distinguished Dr. Sperino, of Turin, presented a notable work.

The third Congress took place in 1873, and selected as the place of its meetings the City of Vienna, where a universal Exhibition was in progress. In the capital of Austria-Hungaria brothels are not tolerated, and prostitution is prohibited by a law which orders the imprisonment of prostitutes. I have already made known my opinion as to prohibitory laws, but the figures of Austrian sanitary statistics, of themselves alone, suffice to confirm most eloquently all I have written in this relation. Notwithstanding the law prohibiting prostitution in Vienna, it is calculated that the city contains over 15,000 prostitutes, in a pop-

ulation of 600,000, (or say one to every ten adult men.). Besides, whilst in other nations the proportion of illegitimate children is as 70 to 80 in the 1,000 births, this proportion in Vienna is 509 to the1,000; and, an almost incredible fact, it is in Olmutz (Moravia) 702 in 1,000[1].

Finally, in the Austrian army, which in 1868 had an effective average of 237,000 soldiers, there were reported 26,722 venereals, (nearly one-eighth of the whole force.)

The hygienists of Austria-Hungaria can then speak of the ravages from prostitution with good knowledge of the cause, and nothing can, better than these penalties, indicate the necessity of repression.

I shall conclude this chapter with the transcription of a portion of the interesting and authorized work of Dr. Sigmund, presented at the third International Congress in Vienna, in 1873, of of which the following is a translation:

"It is universally known that syphilitic affections, being not only contagious, and always grave and extended, but also partially transmitted to descendants by generation and inheritance, constitute a scourge so much the more perilous to the physical and moral perfectionment of individuals of the family and the state, which continue in permanence in all nations.

"A great number of grave affections (inflammations, neuroses, scrofulas and many others), hold an intimate relation with syphilis, which provokes and complicates them in a very serious manner. The origin of syphilis and the causes of its propagation are understood as are those of other contagious diseases. In all the dense collection of population in the cities and towns, and all parts where the counsels of the physicians have been carried out, results entirely decisive have been obtained. In the face of endemic diseases, the devoted activity of one or of various individuals proves powerless. It is generally admitted that in the presence of the frightful ravages of syphilis and the constantly augmenting numbers of those affected by the disease, which attacks all ranks of the population and presents itself in forms and complications so varied, some provisions, restrictive, prophylac-

1. NOTE BY THE TRANSLATOR.—Dr. Dupont has not mentioned the names of the other nations which have only 70 to 80 illegitimates in 1,000 births. It is pretty evident he has not traveled in Norway, Sweden, Denmark, or even Scotland, and verily he cannot include his own city or the Argentine Republic in the more virtuous class.

tic, prudent and well-founded, are indispensable, and that those provisions would give excellent results. It behooves the Legislature and the Executive of the State to take the means necessary for this purpose. The provinces and municipalities cannot be abandoned to their own action, because, though both may be more or less capable of framing and executing the regulations of the police, they cannot exercise a vigilance sufficiently active; they can neither bring to the work the energy nor the means necessary for its accomplishment." [Dr. Dupont here interposes the following note: "I do not share in the opinion of Dr. Sigmund; I think the municipalities of large cities are those which, on the contrary, can best accomplish the object."[1]]

Among the causes which propagate syphilis we may mention first, prostitution, under all its forms and varieties, but principally the clandestine; second, the impossibility or the difficulty of contraction of marriage by certain classes. The dense grouping together of persons, above all, in the commercial cities and seaports; the assembling of troops; the mixing of persons of various origins, and different other agencies, favor extremely the propagation of syphilis. The cases less frequent, but even more fearful and more deserving of attention, are those in which the disease has been communicated by midwives, by nurses and infants, by exposed children, by vaccination, circumcision, by infection peculiar to certain professions (musicians, cigar-makers, etc.,) and finally by generation and the inoculation of offspring.

Let us now consider the progressions of syphilitic contagion—a contagion whose cause may be traced back into the daily relations of persons living in society; let us next enumerate the uninterrupted and enlarged inter-relations of cities and nations, which particularly concern the youthful class of the population, and the malady will be found to augment from all these means of extension, so that we may conclude, first, that the state alone is capable of fighting against the syphilitic scourge and arresting its march; and secondly, that all nations should adopt general and uniform measures to proceed with one accord.

If it is desired to secure a satisfactory result, an international law for the regulation of prostitution and the prevention of syph-

1. NOTE BY THE TRANSLATOR.—This may be Dr. D.'s belief, but it surely is not based on his experience of the character or energy of his own municipality, which is one of the most ignorant and negligent in or out of Christendom.

ilis should be promulgated. Such a law is already necessary, and it ought to be decided on even before the international laws and regulations, which physicians and officials are at this moment preparing for the prevention of other contagious diseases (cholera, plague, yellow fever, small-pox, etc.) Let the duty of executing the law appertain, either wholly or in part, to the State; or let it be divided between the provinces and the municipalities, but the superior direction and the vigilance should, beyond doubt, rest in the hands of the state, and even be confided to a central administration. Profound science, great energy, moderate and circumspect conduct should be the qualifications of all the functionaries charged with the discovery of the infected, and the censorship of prostitution.

In order to discover and treat the diseased, it is indispensable to select courageous, well-instructed and resolute physicians; to appoint them in sufficient numbers, and to pay them liberally. Such are the provisions indispensable in favor of those employed, in order to mitigate their difficult, ungrateful, and, at times, dangerous task. It is mainly by employing a sufficient number of capable and respectable physicians that we can meet the necessities of the public and of organized bodies; and this is, besides, the only means of annuling the large and pernicious influence of charlatans and quacks, to whom the diseased preferentially have recourse, whilst the regular practitioners are more or less shunned.

The discovery of cases ought to be as prompt as possible; the treatment ought to be ordered according to the particular interests of the patients, and all the measures taken at the outset should be free from every appearance of humiliation, menace or censure. The medical prescriptions should be accommodated to the circumstances and situations of the persons."

CONGENITAL AMBLYOPIA DUE TO THE RUDIMENTARY STATE OF THE OPTIC PAPILLA. Translated for the JOURNAL by Dr. A. H. OHMANN-DUMESNIL.

Dr. Fernandez confesses to having never seen a case of the kind recorded as unmistakably congenital. [The author here gives a bibliography of analogous cases, but remarks and points

out the dissimilarity.] The notes of the case are as follows: Pablo Perez presented himself on March 28th, 1879. He is of small stature, of a lymphatic temperament, and of regular proportions; he walks with the head drooping and inclined to one side. His father says that he has been blind from birth, and can assign no reason therefor. Never had medical treatment, and no others of the family blind. The patient is imbecile, although twenty-five years old, and acts quite like a child. In external appearance the eyes do not present any abnormality. The iris is of a greenish-blue, sensible to light, and the pupil a little larger than normal. The visual acuteness cannot be determined, as the patient cannot read. He can distinguish bodies very imperfectly, not being able to take in the details of form, color, etc. He can distinguish the principal colors, if they are bright.

On attempting an examination with the ophthalmoscope, the trembling was so great as to lead to a suspicion of an affection of the optic nerve. The pupil was dilated, the patient chloroformed, and then examined, the following being the appearance: The optic papilla, found without difficulty, was reduced to a small white spot, slightly yellowish, of an oblong form, and of about one-third its normal size. From its center issued attenuated vessels having but few branches. About this small spot there was a narrow zone of a blueish-gray color, almost blending with that of the retina. This seemed to indicate the outer limit of the normal papilla. The retina had numerous pigmentary spots, distinct from those present in well known changes, such as pigmentary retinitis, chloroiditis, atrophy, etc. In this case they presented the appearance of small dots irregularly grouped in lines. Their color, grayish-black, did not approach the intensity of coloration of ordinary pigment cells. The fundus of the eye was of an intense red at the periphery, becoming paler, and, as it were, orange-colored toward the center.

Although the papilla is doubtless the only "blind spot" in the fundus of the eye, it seems to subserve the function of transmitting the impressions of images, on the retina, to the brain. Nerrman long since demonstrated this fact. In the present case, the rudimentary state of the papilla can thus satisfactorily explain the confused and illy defined impressions made on the brain of the patient.—[*Cronica Medica-Quirurgica de la Habana, Sept., 1879.*

Naso-Pharyngeal Polypus. The tumor completely filling the mouth. Patient presented to the Society by Dr. R. P. Lincoln four years after he removed the tumor. **See page 467.**

Proceedings of Medical Societies.

THE AMERICAN LARYNGOLOGICAL ASSOCIATION.

NASO-PHARYNGEAL POLYPI, WITH DEMONSTRATION OF CASES.

By R. P. LINCOLN, M. D., of New York.

Case I.—In April, 1875, I was consulted by J. B. J., a youth aged 15 years, who gave the following history: He dated his complaint from the autumn of 1871, when he was first annoyed by a constantly irritable and sore throat with some expectoration. There was also some obstruction to nasal breathing and a nasal discharge. Though evidently by nature a bright boy, he at this time suffered when in school from a feeling of heaviness and drowsiness that passed off when in the open air.

During the following six months three different physicians undertook the charge of his case, using local applications in the nostrils and throat by means of sponges and brushes. In the spring of '72, at the suggestion of his family physician, a specialist in this city was consulted who recognized the true nature of the disease and attempted the removal of the tumor by evulsion with forceps. This was apparently but partially successful when compressed and medicated sponges were introduced above the pharynx and into the right nostril and left *in situ*.

This treatment was followed till August, '72, when, alarmed by the increasing frequency of hemorrhages, he was placed under the care of a prominent homœopathic practitioner, various members of which class occupied most of the patient's time for two years and a half, while the growth slowly but steadily, and at the same time the attendant symptoms, as pain, hemorrhage, mental disquietude, increased. The right side of the face had become decidedly prominent and it was already many months since air could be forced through either nostril.

On examination through the mouth, the pharynx was found occupied and distended by a tumor, extending about half an inch below the margin of the soft palate, ulcerated on its inferior surface for a space as large as a silver twenty-five cent coin and resembling in shape the large end of a pear. The soft palate was depressed and its posterior two-thirds deflected to near a right angle, and stretched over the tumor. The tumor itself was

elastic to the touch and generally of a pale purplish color. The index finger of the right hand could trace its insertion in the vault of the pharynx, more on the right side than the left, posteriorly, while anteriorly it was found to occupy the right nostril. The right nostril, when freed from mucus and inspected, disclosed the shining mucous membrane of the tumor, occluding this nostril to within about an inch and a half of its margin. The left nostril was free to the passage of instruments till the posterior nasal region was reached, when an obstacle was met.

There was a characteristic fullness of the right cheek over the zygomatic fossa, and extending a little below it. By seizing the cheek at this point with the thumb and fore-finger, the finger being in the mouth, this prominence was found to be caused by a tumor near the buccal mucous membrane and prolonged from behind the zygomatic arch; it was about the size of a small olive, elastic, and so movable that it could easily be pushed under the zygoma, but immediately the sustaining force was removed, it would again come down.

The hearing of the right ear was impaired, but was variable.

Hæmorrhages had now become quite frequent, as often as once a week, and profuse. In fact one was excited by my examination, which was not harsh. At this time the blood poured from the ulcerated surface of the dependent tumor, and was stopped by an application of powdered tannin.

Other advice was sought, when an operation involving a section of the bones of the face was urged.

After considering the uncertainty of a permanent result from any operation usually practiced, as well as its danger and disfigurement, it was decided to submit to my suggestion to remove the growth by means of the galvano-caustic loop, and afterwards to thoroughly destroy the stump by repeated applications of the galvano-cautery. Accordingly, on the 26th day of April, 1875, in the presence of several members of the profession belonging in this city, a few astringent spray applications having been previously made, to allay the surrounding irritation of the mucous membrane, I operated as follows:

Before etherizing the patient, a looped platinum wire was passed through the right nostril and the looped end carried back into the mouth, opened, passed under and behind the pendulent tumor and carried by the finger and suitable instruments up to the insertion of the growth. The two terminals of the wire

which were protruding from the nostril were then pushed through the double canula-like electrode which was afterwards to be attached to the cautery handle. Care had been taken that these wires should not become crossed, and the conductor was slid over them till its end reached the pedicle of the tumor. As this was tightened the greatest care was taken that the wire should grasp the pedicle as close on its insertion as possible. The patient was now etherized, the wire being retained in position. The attachment was then made to the galvano-cautery handle and battery and the tumor successfully severed by the heated wire in a few seconds, and without embarrassment. The polypus was removed through the mouth without difficulty while the slight bleeding that followed stopped in a few moments spontaneously.

Free respiration through the nostrils was immediately established, and articulation, which before the operation was difficult and indistinct, became at once clear and resonant. The tumor weighed one ounce and six drams and the diameter of its cut surface measured one inch and three-fourths. It was invested by mucous membrane and a section presented a white fibrous appearance, marbleized with purple streaks.

A microscopic examination determined the growth to be mainly fibrous throughout.[1] The after treatment, to which I am inclined to attribute the ultimate success of my method, consisted in the repeated cauterization of the stump by means of the galvano-cautery, using a platinum disk about the size of a five cent silver coin.

A description of this instrument which I devised for, and first used in this case, was given, with a figure, in the *Medical Record*, Dec. 30, 1876, in connection with an account of some cases of adenoid of the fornix treated by it.

There were made, in all, twelve cauterizations, at intervals of from four to seven days, leaving, after the immediate effect had

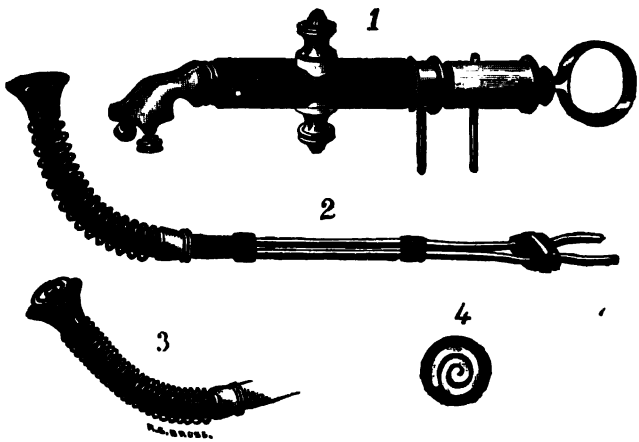
1. Dr. C. Seiler, of Philadelphia, subsequently made a critical examination of a section of the tumor with the following result: Large bundles of white fibrous tissue running in different directions. Between the fibres of the bundles were seen numerous spindle cells and a few small, round, granular cells. The vessels were numerous and large, having well marked coats and a distinct lining of endothelial cells which were seen to have proliferated in some of the vessels. The tumor was covered with pavement epithelium. I regard this tumor, therefore, as a fibroma undergoing cavernous transformation and being in a state of irritation.

passed off, a fairly smooth cicatricial surface, occupying the right half of the vault and extending over the median line a small space.

I have examined the patient every month or two during the interval since these operations, a period of more than four years, and I am happy to report there has been no disposition to reproduction, nor has the tumor that presented outside the facial bones increased, but on the contrary, there has been a slow and steady atrophy of this part, an opinion in which the patient, whom you now have an opportunity to examine, as well as his friends, coincide.

I also present for your inspection the tumor itself, which has been preserved in alcohol.

On account of the importance of a convenient electrode to be used through the mouth in the posterior nares, in the after treatment of these cases, I reproduce for your convenience from the number of the *Medical Record* referred to, the wood cut and its description.



1. Leiter's universal handle. 2. Electrode, on which is fixed a spiral spring terminating in a shield of bone, concealing a platina disk, which terminates the electrode. 3. The same with the disk disclosed by the recession of the shield when pressed against the diseased tissues in the act of cauterization. The shield serves to protect the surrounding parts in case the instrument is grasped by them during the operation. 4. The disk in its relation with the shield.

The above figures are one-half the size of the original.

"It consists of an addition to one of Leiter's electrodes, and used with his universal handle, all of which is figured herewith.

"In some cases the shield described below may be dispensed with, either on account of the patient being able to avoid contraction of the palate during an operation, or when it can be controlled by some retractor, as the rubber cord suggested by Dr. Wales."

Case II.—In the fall of 1874, at the suggestion of the family physician, Dr. Lutkins of Jersey City, I was consulted by the parents of M. B., who related as follows about their son:

It was in the spring of '69 their attention was excited by his difficulty in breathing through his nose, caused by some obstruction, which was supposed to be an ordinary cold in his head, but which resisted every attempt for relief, though many and various were tried till the middle of the following September, when he was placed in Dr. Lutkin's hands, who detected the true cause of the trouble. At this time a polypus made its appearance in his throat, was growing rapidly, and hemorrhages caused by it were frequent and exhaustive. Dr. Willard Parker now saw the patient in consultation and advised immediate surgical interference by excision, previously dividing the soft palate, which was made Oct. 8th, '69. According to the report made to me, the patient barely survived the operation, but, after a fortnight, rallied rapidly and gained physically through the following winter. However, during the holidays there were symptoms of a recurrence.

In the first half of '70 its growth was again rapid and hemorrhages were frequent. By July it had attained such dimensions that the embarrassment was so great as to demand interference, when, on the 12th of that month, nine months after its first removal, Dr. Lutkins repeated Dr. Parker's operation.

To relate the history of the next four years would be to repeat what we have already read of the past two, viz., steady growth of the tumor, frequent hemorrhages, difficulty in breathing and swallowing, extreme debility, and in addition, symptoms of septicæmia, as evinced by abscesses in hand, arm, and other parts of the body. I first visited the patient at his home in Jersey City, July 21st, '74, and found a youth 19 years of age, about 5 feet 8 inches in height, and weighing 68 pounds. The evidence of debility and emaciation were manifest in a most striking de-

gree and to add to his uninviting appearance, was a protruding mass, a portion of the tumor, extending from the left nostril half over his upper lip; from his open mouth, through which the patient was breathing, also protruded in front of the line of the upper incisor teeth, the œdematous uvula, which, as he said, he might easily have bitten off. There also appeared here a portion of the tumor itself, which was a part of the mass that filled the upper part of his mouth and which, when the mouth was closed a moment at my request, completely filled it. Had there been no other obstacle in the way, mastication would have been impossible, for the upper jaw had been so much spread asunder that its teeth could not appose those of the lower. The nose throughout its length presented a characteristic appearance to a marked degree, and even the eyes were so much out of normal axis as to give double vision, the left eye protruding and carried slightly outward. Deafness and pain in his ears were common but not constant.

Considering the feeble condition of the patient, the frequency of hemorrhages and the probability of exciting one by any further exploration, and also the clinical history, it was not deemed justifiable or necessary at this time to make a more thorough exploration for the origin of the growth, or to learn of adhesions or prolongations.

The color of the mass on the upper lip was a dull pink, and of that in the mouth a darker purple; while the appearance of the latter was flattened, nodular, ulcerated and covered with mucus and pus.

The extreme debility of the patient precluded the possibility of attempting a radical operation at this time, and hence only tentative measures were adopted for the purpose of stopping the hemorrhages, and thus harboring his strength and affording an opportunity of adding thereto by means of iron and other tonics.

Electrolysis seemed to offer the only means of accomplishing this end. Happily, as the sequel shows, this was successful. Extending over a period of about a year, there were twenty-two séances. At each sitting from two to six needles were introduced into the mass to the depth of one to four inches, sometimes into the nasal portion, sometimes in the oral, and at times in both, and a current from sixteen to thirty cells of a constant current battery allowed to pass from twenty to thirty-five minutes. The tincture of the muriate of iron was given in three

drop doses three times a day and two or three grains of quinine in twenty-four hours, larger doses producing headache. After the first operation by electrolysis there was no recurrence of hemorrhage and there was a steady improvement in physical strength and diminution of the size of the tumor. During the last six months of this part of the treatment the patient came to my office for electrolysis. Each séance was without an anæsthetic.

Near the end of '75 the patient weighed about 100 pounds and the tumor had shrunk very much in all dimensions; the mass that protruded from the nostril had early disappeared and the nostril was free for more than an inch from its margin. The forefinger could be easily carried along the floor of the nostril under the growth, till its tip reached beyond the free border of what remained of the hard palate. The uvula had receded much, but still there was a large portion of the tumor visible in the mouth. As the finger was carried around the growth, the nasal septum was found so pressed to the right as to completely occlude the right nostril, flattening the turbinated bones. The turbinated bones of the left nostril were not discoverable, but there were friable adhesions on this side; while there was no separating wall between the nasal cavity and the cavity of the antrum.

On passing the finger in the pharynx behind the tumor, its attachment was found to be rather broad at the vault and to the left of the median line. The photograph, I now offer for your inspection, was taken at this time and shows the tumor in the mouth. I now proceeded to carry out the second step of my plan, viz., to remove the tumor in mass, which was done in this city, Jan. 15th, 1876, after the manner of the case previously described. In the presence of a number of medical gentlemen, the looped platinum wire was carried to its position without difficulty, though on account of the necessary rupture of some bands of adhesion between the tumor and its adjacent walls, some hemorrhage was excited; this was the only bleeding during the operation; it lasted but a few moments and ceased spontaneously. The patient was now etherized, the wire being retained in position and the cautery instruments properly adjusted. The severance of the pedicle proceeded satisfactorily until it was nearly cut through, when further progress of the wire ceased inexplicably. Fully a half hour was consumed in trying to solve the mystery; the battery fluid was changed, another handle was tried and a new wire readjusted, but all to no purpose.

The length of the wire having been known, the circumference of the pedicle before the operation, at the point of division was estimated at about three inches and a half. At this stage of the operation, the undivided portion was not greater than that of an ordinary lead pencil. The color of the tumor as seen in the patient's mouth, showed that its circulation had been entirely cut off. Considering these facts and also the constitutional feebleness of the patient, it was deemed prudent to fix the wire in its present position, and be governed by circumstances thereafter.

The effects of the ether passed off pleasantly, the principal complaint made by the patient being a severe headache, which, I may add, had been a frequent cause of suffering for many years. On the following morning the wire was removed without difficulty and without hemorrhage, and the patient proceeded to his home in Jersey City.

Disintegration, softening and shrinkage progressed rapidly and the consequent offensive discharge was only rendered bearable by means of sprays and washes of tincture of myrrh, carbolic acid and other disinfectants.

A few days later with the aid of a little traction the mass was removed through the mouth, leaving no vestige of the tumor but its stump, whose cut surface was a little larger than a silver twenty-five cent coin. On one of the occasions of the use of a gargle, the patient states that he removed from his mouth a piece of bone which he believes came from the polypus. I regret that this was thrown away without my seeing it, as it may have borne some evidence that would have explained the interruption to the operation.

The repeated and thorough cauterization of the stump was carried out as in the first case, until hardly a trace of it was indicated by any prominence of its original seat. Seven cauterizations in all were made subsequent to the removal of the tumor, the last being in May, '76.

The subject of this case, like the first, has been frequently observed by me during the period of nearly three years and a half that have elapsed since the growth was removed, without exhibiting any signs of a return. He, too, is also present for your inspection.[1]

1. A report of a microscopic examination of a portion of the polypus disengaged at the time of the operation, for which I am also indebted to Dr. Seiler, is as follows: Bundles of white fibrous tissue running in different

Remarks. — The successful results of my treatment in these cases I am disposed to attribute chiefly to the repeated cauterization of the stump of the pedicle. Its advantages are simplicity, freedom from danger and absence of mutilation and disfigurement. I have purposely delayed the publication of these cases, that the test of time as to permanency of cure might be fairly tried, and I believe I have escaped the charge of undue haste in now inviting your attention to the consideration of this subject, and in expressing the hope that their study will encourage you to make a similar trial when opportunity offers.

THE UTERUS AND THE LARYNX. By EPHRAIM CUTTER, A. M., M. D., of Boston, Mass.

It is my desire, in making my humble contribution to the common interest, to recall to your minds the relations of the larynx to the uterus. I do so the more earnestly because I fear they have not been appreciated by our systemic writers. Incidental allusions may be found scattered through their pages, showing that the subject is not forgotten; but it has seemed to me that our authors did not have, as some religionists say, "a realizing sense" of their importance in the treatment of laryngological diseases. They point out a hysterical relation, which term is good enough, but conveys an impression of a functional disturbance, rather than one based on organic changes—one that somehow or other may come under the influence of the will, or is "dependent on the irregularity of nervous distribution in very impressible persons," and is to be relieved more by psychological influences than any other. Certainly the alternate fits of laughing and crying, with a sense of strangulation in the throat, must be included in the domain of our investigation; but it seems that

directions, with here and there depots of small, round, granular cells as well as spindle cells.

The blood vessels appeared very numerous and large, having a distinct lining of endothelial cells which were seen to have proliferated in many of the larger vessels or sinuses. I would, therefore, take this tumor to be a cavernous fibroma in a state of irritation.

something more than the term neuroses, which are nervous diseases without any evident lesion in the structure of the parts, and without any evident material agent producing them, is needed to embrace the whole truth. It will be my aim to try to show that organic affections of the laryngological tract do occur in connection with organic uterine diseases, as prime factors; that is, dislocations, flexions, ulcerations, hypertrophies, tumors and cancerous conditions of the uterus may produce affections of the throat, which, to yield, must be treated by attempts directed to the uterus.

Now I am not prepared to sustain the ordinary meaning of hysteria, for I believe that it can usually be traced to some organic lesion of the uterus, when it occurs in a woman—I have seen hysteria in a man—and that the number of cases of hysteria dependent on a neurosis is a small moiety. This is hardly the place to discuss the subject of hysteria, but perhaps my meaning will be more intelligible when it is averred that laryngological diseases may be dependent on uterine disease without any signs of hysteria. The doctrine of reflex irritation was broached and forcibly insisted on by the late Prof. Hugh L. Hodge, of the University of Pennsylvania, in 1855. He taught me, in his lectures, the then new doctrine that disease in the uterus could cause mimotic disease of the stomach, lungs, head, throat, limbs; indeed, of almost any part of the body. It is possible that the sincere and enthusiastic Professor may have over-reached, and conveyed a distrust of what he wished to be received. Still, instances have occurred that sustain his position. Allow, if you please, the relation of a few cases:

CASE I.—As I write, I have a case of uterine disease which consists of retroversion, hypertrophy, ulceration, with nodular, possibly cancerous growths, in the posterior utero-vaginal *cul de sac*. At first her chief complaint was of an anæsthesia in both feet, so that locomotion was difficult, since she could not feel when she took steps. Replacing the uterus, and retaining it with my retroversion pessary, this difficulty disappeared. On another recurrence of the disease, there was an hyperæsthesia of the lower part of the abdomen, which proved to be of such exquisite sensitiveness as to render the wearing of her clothing an agony. A strong, firm push could be borne, but a soft touch was so distressing that at night she found herself most comfortable when nude.

On treatment of the uterine lesions, she was better, and this abdominal hyperæsthesia disappeared. Later, a renewal of her trouble brought out a curious phase of reflex irritation. Her left hand and forearm took on the same exquisite tactile sensitiveness. The thumb was strongly flexed into the palm. She could handle nothing; the limb was helpless; was extended on a splint, and received applications of the constant current. Iodoform was applied to the womb; a new pessary was fitted. After this treatment, the hand and limb were cured. At present she has suffered another renewal, and the reflex symptoms now are manifested in an inability to draw in her breath, though the normal vesicular murmur is heard over both lungs. The heart is sore, *the voice almost lost;* she can scarcely phonate above a whisper.

Now, in my own mind I have no difficulty in explaining the aphonia as due to reflex irritation, the uterine disease. The globus hystericus has not been present. When this passes off, some more novel one may take its place.

[NOTE.—The latest examination showed an entire absence of the nodules; voice perfect. I think much of iodoform in such cases.]

CASE II.—This occurred some ten or fifteen years ago. A tall, slender, middle-aged widow came from Cape Cod for treatment of the throat. There was no aphonia, no dysphagia; no dyspnœa, and no excessive secretion. Her chief complaint was of pain and soreness of a severe character, whether she was swallowing or not. On examination, the larynx was found to be healthy; there was some ulceration on the posterior pillar of the soft palate, some enlarged solitary glands on the posterior aspect of the pharynx; the oral cavity was sensitive to the touch, and sore beyond its looks. Hence I was led to inquire as to the other systemic and local symptoms, and found the uterus sensitive and anteverted. When this was relieved by my anteversion pessary the throat trouble disappeared without any topical treatment to the diseased sites in the throat. There was no evidence of hysteria in this case, and the history seemed to me a sufficient justification for connecting the uterus with the cause of the disease.

CASE III.—An unmarried daughter of a physician came lately to have her throat examined; age, about twenty-seven years. She

complained of dry cough, dryness and irritation of the throat; no dysphagia, no dysphonia. Her manner was agitated; she cried, and shed tears freely; was unwilling to be left alone with the examiner; evidently her nervous system was thoroughly disturbed. This did not arise from a fear of the examination; she was anxious for it, and came nearly one hundred miles on purpose for it. She was sensible in conversation, and intelligent. Still she made such a fuss and showed so many objective signs of undue nervous excitement during the conduct of the exploration, that the impression was forced upon me that the inflamed spot found on the right posterior pillar of the palate just behind the tonsil was not enough to explain the systemic nervous disturbance. The larynx was normal; the lungs, heart, liver, spleen and other abdominal organs were found healthy, save the vagina and uterus. There were vaginismus—a stenosis of the vagina, caused by an exquisitely sensitive hymen, with a half inch opening fringed by thickened nodular enlargements; anteversion, anteflexion, enlarged os, ulcerated cervix. She stated that she was subject to cramp in the calves of the legs.

These conditions seemed to me a sufficient explanation for the systemic excitement, and also for the throat trouble. The treatment was applied to the uterus; vaginal suppositories of iodoform and cocoa butter, ten grains to a dram, were used at night; the throat received no applications. The effect was to relieve the throat promptly and manifestly, so that she, though skeptical at first, was satisfied that the uterus did affect the throat. Subsequently the hymeneal opening was enlarged by digital dilatation; the uterus was elevated into place. The cervical ulceration was treated with the application of one-half a dram of iodoform in powder, and retained by pledgets of absorbent cotton. The forcible expansion relieved the cramp immediately, while the throat trouble was hardly perceptible.

CASE IV.—Lately Miss D——, aged thirty-seven years, applied for relief for trouble in the throat. She came from the better walks of life; symmetrical, well developed, medium-sized, mind well cultivated, intelligent, active and talkative. Her conversation was directed mainly to her subjective feelings in her throat; said it felt "horrible" all the time, as if something foreign had lodged there that could not be removed, and caused her to strangle when she attempted to swallow. There was no dyspnœa;

liquids she could get down, but could not swallow anything solid, like meats of any kind. She detailed a long account of her previous history, the main features of which were: 1st, the existence of uterine disease for more than ten years. At that time she suffered so much from the manipulations of a female physician that she preferred to let it go untreated; probably she had vaginisimus then. 2d, a terrible shock received by the sudden death of a loved sister from puerperal embolism. 3d, the mental suffering she had experienced from an unrequited affection. She had never known much sickness; was regarded as a person strong and healthy, and for many years was a housekeeper for her widowed father, performing, others said, her duties with unusual fidelity and success. The dysphagia dated with the shock received by the death named. It came on suddenly, while she was eating. Since it occurred, it had been continuous. Her manner was wild, and indicated some aberration of mind on this particular subject, for her fear of being choked was a large element of the dysphagia.

A careful laryngoscopical examination revealed nothing to explain the dysphagia; moreover, a sponge probang readily passed into the stomach. The pharynx was extremely sensitive; the chest was normal; the abdomen was normal, save in its pelvic portion; vaginismus and an anteverted and flexed hyperæsthetic uterus were disclosed on digital examination. The neurotic condition was exalted. By the use of iodoform in powder to the os, and also in vaginal suppositories, the vaginal and uterine sensibility was relieved, so that she could use the anteversion stem pessary. The throat symptoms were ameliorated so that the patient began to and actually did swallow meat in my presence; but in spite of my efforts she did not improve. For domestic reasons she was sent to Brooklyn, N. Y., to be nursed by her sister, with a view of going to an asylum. I am told that the dysphagia continues, and that she is lapsing into a melancholic state and a mild dementia.

Remarks.—The longest occurring element in this case was the uterine. It is traced to a ten years' existence. Of course it alone was not enough to account for the difficulties in such a constitution, but the combination with it of the nervous shocks named, seems to me satisfactory. To explain the resulting "œsophagismus," to follow the nomenclature of vaginismus, which was excited when semi-solid food came into contact with the upper part

of the gullet, just as we found in case I, the hyperæsthetic condition of the abdomen shifting, for no well explained reason, to the left hand on the next attack of the disease. Why might not the hyperæsthesia in this case shift to the gullet? The blood showed syphilis. It was probably hereditary, as there was no evidence elsewhere.

CASE V.—Some ten years ago an American lady of twenty-seven years of age applied for relief to her throat. Pain, irritation, dry cough were the prominent symptoms. On examination it was found inflamed, sensitive and ulcerated, chiefly on the pillars of the soft palate. In the cross examination I found that the whole nervous system was much disturbed. Fifteen years before, while walking on a fence-top, she slipped, fell and was impaled on a picket that entered her body through the vagina. Considerable hemorrhage and pain followed the withdrawal of the picket. Though she was attended by a physician, so far as I could learn, she recovered without anything being done for the vagina. Since then she had not been well, and had suffered in many ways from pains and distress in various parts of the body, but not until I broached the subject did she or her friends suspect the existence of any uterine lesion. I found no evidence of any wound in the vagina, but the uterus was retroverted and flexed, combined with vaginismus. On relieving these by therapeutical and mechanical treatment, the throat yielded, and she was restored to a fair degree of health. I am sorry to say that, despite my best efforts, she suffered relapses, combined with the reflex throat troubles. The case, however, shows the connection between the laryngological tract and the uterus.

CASE VI.—Diagnosis: A middle-aged wife of a Congregational clergyman of Massachusetts lately consulted me in relation to her throat. Mother died of consumption when she was seven years old. Small-sized, symmetrical, well developed, healthy looking; was much reduced by long and distressing sickness in her family. Three children, the youngest two and one-half years old. Complained of systemic weakness; of night sweats, now passed away; of loss of appetite; of a continuous dry cough that had existed for six months without cessation, *save when she was unwell.* (Please note this last statement.) I found the larynx healthy; some ash color in the right piriform fossæ; the post

pharyngeal wall, on the right especially, was covered with adenoid hypertrophies; the posterior pillars of the palate were granular and inflamed; they were not over-sensitive to the touch. It was found that no one had suspected the existence of disease in the uterus, though she had asked her family physician why it was that her cough always ceased during the menses. The reply was that the cough could not be bad if it ceased at these times. This reply availed to quiet her. It became interesting to find if there was any disease in the chief organ of menstruation. It was a case for the gynæcologist to answer. His report was: Some vaginismus, combined with an anteflexed and anteverted uterus, which was four inches deep in its cavity, and a little ulcerated. The effect of replacing the organ, though it soon relapsed, was to make the cough less constant.

Remarks.—This case is under treatment. Its main interest here is in the fact that the menses were always attended by a relief of the cough which evidently had its origin, or rather was sufficiently explained, by the throat lesion. Still, the following out of the idea laid down here resulted in the discovery of the uterine lesions whose partial relief favorably affected the cough. I might add in conclusion, that I found the blood presenting the appearance which Dr. Salisbury has pointed out, and which I confirm as characteristic of the pre-tubercular stage of consumption. Her mother died of consumption.

Perhaps these few cases will be enough to call attention to this subject. For the sake of establishing the connection, we beg leave to recall instances showing how it is the habit of the uterus to reflect off to other organs its own troubles.

According to my own experience, uterine disease manifests its sensory phenomena, *at first, in its own locality*. In other words, recent uterine affections generally cause pain and distress and sensory disturbances in the pelvis, loins, and in its own neighborhood. If allowed to go on unchecked, and not getting well of itself, after a time more or less long, the uterine vicinage ceases to be the field of the manifestation of pain and abnormal sensations, and nature sets up her flags of distress in other parts of the body. Significant enough, if understood, but often, I fear, hung out in vain. The busy practitioner addresses treatment to the flag of distress, and with little benefit, as the treatment of symptoms is very much like the methods of a Dutch Admiral in the story, who, wishing to have the wind always in one quarter,

had a sailor set the vane in the desired direction each morning, fondly imagining that where the vane pointed, there the wind must be.

Please listen to an example of treating symptoms. Mrs. B——, a young married woman, in consumption, was confined with her first child. She was attended by her family physician, though the writer treated her for the pulmonal disease. When her child was three or four weeks old I found her in bed, suffering acutely from a severe pain over the right upper third front of the chest. Blisters and other measures had been used without relief. Auscultation and percussion over the affected site revealed a normal condition of the lung. There was no doubt of her suffering, and I believed there was a cause. It seems there was trouble below the chest, and that her physician, in conjunction with another, had discovered a pelvic abscess. At this time I could find no evidence of the abscess, but discovered an ovoid, exquisitely sensitive, inelastic, mobile body, which, when touched, caused an exacerbation of the chest pain, and I regarded it as a prolapsed ovary; uterus retroverted. On replacement, the ovoid body disappeared from reach, so did the pain in the chest. Of course if there had been a pelvic abscess, it is difficult to see how the uterus could have been so readily replaced, or that the ovary could have prolapsed at all. The patient soon ceased to be bedridden, and rode out of doors. After a ride in a horse car that got off the track the chest pain recurred. On examination it was found that the jolting had dislocated the ovary again and retroverted the uterus. Replacing both, the thoracic pain was relieved a second time.

Sometimes extra uterine sites of pain are significant of the site of uterine disease. For instance, pain just inside of the anterior superior processes of the ilia is indicative of intra uterine ulceration or hyperæsthesia. Let us consider a few other sites.

Lately Dr. Weeks, of Chelsea, reported a case of hypertrophy of the mammary gland, supposed by some to be cancerous, which was treated locally, with no benefit, for some time. It was cured by treating the diseased uterus.

TEETH.—It used to be common, years ago, to extract sound teeth from pregnant women on account of the ache. Lately I have had a patient with fibroid tumors and anteverted and flexed uterus, who also suffered much from the aching of her front

teeth. The gums were just as sensitive after they were withdrawn, and she could not wear the false teeth that were made.

EYES.—Some years ago a married lady complained of double sight and other anomalies of vision in her left eye. Dr. Haske Derby examined it with the ophthalmoscope, and pronounced it to be the healthiest eye he ever examined. In this case the uterus was found retroverted. Relieving the version relieved the double vision.

HEART.—One of the most common concomitants of uterine disease is a reflex difficulty with the heart. Sometimes there is sharp, agonizing pain, which will make a courageous woman cry out. Still, auscultation and percussion have shown the size, rythm and pronunciation to be normal. Sometimes the rate is quickened, and sometimes not, and the more the uterine trouble the more the cardiac symptoms.

STOMACH.—Often this state of things is combined with the stomach. A married lady of small stature was found to have a very sensitive and somewhat inflamed uterus. It was a chronic affair. For years she stated that she never knew what it was to digest food without pain in the stomach. When the uterus had been depleted and restored to its normal condition and position, the stomachic pain on digestion was entirely removed.

CHEST.—I have known a woman suffering under a diseased uterus, frequently to have the whole left half of her chest, even exactly up to the median line, front and back, be so sensitive that the slightest touch was terrible to bear; and another one who fainted away when her physician accidentally touched her back, yet these conditions were relieved by local uterine treatment.

HEAD.—This is often the site of reflex uterine pain. Once I was replacing a verted uterus; the patient exclaimed, "Oh, Doctor, how you hurt me!" "Where do I hurt you?" "On the top of my head," was the reply.

But I think it is needless for me to multiply instances. I can hardly think that any will fail to recall such examples of reflex irritation. Now why should the laryngeal tract be exempt from the law of reflex irritation? We know that the larynx will reflect pain somewhat as the uterus does. Our President, Dr. Elsberg, will remember the case of Mr. Capen, one of the early

cases of cancer of the larynx made out by the aid of the laryngoscope. Mr. Capen always complained of pain in his ears when he attempted to swallow, and also at other times, saying that he did not feel pain in the larynx. Now there was nothing the matter with his ears.

So also, pharyngeal ulcerations will reflect pain. For example: Some years ago, at a dispensary at the South End, Boston, a man was relegated to the writer as incurable with a sore throat trouble. He complained mostly of a pain in the right upper third front of the chest. On careful exploration there were no signs of any chest trouble. Examining the throat, the seat of trouble was found just behind the soft palate on the right. When this site was touched, an increased pain was felt in the spot of thoracic sufferfng. When the post pharyngeal sore was cured, the thoracic pain subsided.

Concede that this principle is correct for the pharynx and the larynx, it must be allowed that the uterus is the most influential organ in the matter of producing reflex irritation, as judged from the history of medicine, as well as from anatomy. In the Royal Transactions for 1842, Dr. Robert Lee reports his discovery of several large nervous ganglia and plexuses which were before unknown to science. First, the hypogastric ganglion, placed on each side of the cervex uteri, behind the ureter. It is connected with the hypogastric and sacral plexuses, and distributes branches to the uterus, vagina, bladder and rectum. Of the branches to the uterus a large fasciculus proceeds upwards by the side of the organ towards its angle, where they communicate with the branches of the spermatic plexus, and form another large ganglion which he designates the spermatic ganglion, and which supplies the fundus uteri. Besides these, Dr. Lee describes vesical and vaginal ganglia and anterior and posterior sub-peritoneal ganglia and plexuses which communicate with the preceding and constitute an extensive nervous rete. Of course this rete has close connection with the great sympathetic nerve and ganglia, and in this way can readily be explained the reflex action of the uterus. Dr. Lee concludes: "It is chiefly by the influence of these nerves that the uterus performs the varied functions of menstruation, conception and parturition, and it is solely by these means that the whole fabric of the nervous system sympathizes with the different morbid affections of the uterus. If these nerves of the uterus could not be demonstrated, its physiology and path-

ology would be completely inexplicable."—[Wilson's Anatomy. p. 580; Lea & Blanchard, 1847.]

In conclusion, I am glad to acknowledge the receipt of a *New York Medical Journal* reprint, date not given, from Dr. Edgar Holden, of Newark, N. J., on "The Pharyngeal Neuroses Due to Uterine Disease." In this able paper the Doctor has preoccupied my ground, and if, as he says, there is no literature upon this subject, perhaps this effort may go to sustain him. The cases he relates show unmistakably the connection of uterine diseases with the diseased pharynx. Perhaps some may object to my title, but I suppose that the term "laryngological" includes the nasal and pharyngeal tracts.

What I have said is by way of recall, and to excite courteous discussion. If the positions here made are sustained, they will serve as additional inducement for the various divisions in the great army of medicine to respect the value of the different arms of the service in battling for life with disease. Perhaps it may bring some of us to avail ourselves of the valuable modes of indirect attack where our direct assaults have not availed.

Let me be understood. I do not say that all, or even most, of the cases of laryngeal disease in women are of uterine peripheral origin; but I do say that some are, and that these must be relegated to the gynæcologist before they are cured. From all this we conclude that specialties must include ideas outside of their department. So long as the great sympathetic nerve exists, with its many ganglia divisions, anastomoses and connections with the other great nerves and nerve centers, we must not forget that its influence may be exerted in the domain that belongs to our Society, and that we must not allow the zealous cultivation of our specialty to narrow our minds and prevent the generalizations that come from broad and comprehensive views. Thus going on, without derogating from the credit of all honest workers in the varied and differing fields of practice, and acknowledging our compeer's work, we shall magnify our specialty and honor our profession.

DR. HARTMAN said:—In my opinion the class of cases to which the Doctor has just referred come under the heading of the hystero-neuroses of the pharynx and larynx, which have been so ably described by Dr. Edgar Holden, in the *New York Medical Journal*, August, 1877, and in a very instructive and valuable paper by Dr. Geo. J. Engleman, read before the American Gynæ-

cological Society, and published in the Transactions for 1878. There can be no doubt of the existence of an obscure and intimate relation between a diseased uterus and a sympathetic larynx. A recent and obstinate case of aphonia in my own practice was found due to an antiflexed uterus, and upon removal of the flexure, the aphonia disappeared.

MITCHELL DISTRICT (IND.) MEDICAL SOCIETY.

COMMON SENSE IN MEDICINE. By G. J. GARDNER, M. D., of Bedford, Ind.

Medicine is not an exact science. I have heard a learned college professor claim that it had reached exactitude; but he was talking to the public, and you know, in such cases, a little amplitude is allowable. You know that you rarely find a practitioner with whom you can agree on even the majority of points; and that in cases where you meet for consultation, there is generally a concession, on one side or the other, for the sake of harmony. This is right.

In the present inexact state of therapeutical knowledge, and in the extended range of diseases where remedial interference is called for, no one man can hope to attain more than a proximate excellence as a general practitioner. And yet, as society is constituted, the best we can hope for is to do the best we can with the limited knowledge we have, by the aid of the best use of our reasoning faculties, and by such course as experience has demonstrated to be most effective.

And here there is danger that one may, either on the one hand, run into an aggressive dogmatism, or on the other hand, do what is equally bad, settle down into passive routinism. Either of these states is unworthy of our liberal art, and should, in as far as we have light, be diligently guarded against. The simple fact that we are here to-day is a tacit confession of, and subscription to, the points which I have indicated.

But while there may be so many grounds for disagreement, so many places where exact truth is unattainable at the present time, yet still there are enough cardinal truths manifest to lift us entirely above the domain of quackery and charlatanism.

In cases where there is an aberration from a standard of health, where we are called in for the exercise of our skill in healing,

there are certain facts that are attainable, in whole or in part, that should in no wise be slighted. After we have attained some experience a part of these facts are received and perhaps acted upon, almost without consciousness on our part, but others of them may be totally ignored.

As we approach the house of the sick person we get a general idea of its efficiency as a shelter, of the amount of commodiousness or comfort it is capable of furnishing; whether it is well lighted—first, as to its exterior surroundings, and second, as to its windows, whether they are sufficient in number and so arranged as to habitually admit an abundance of sunlight. No house, whatever its other excellences may be, should or can be admitted to be a thoroughly healthful abode unless the sunlight has free access at some portion of the day. So much for external possibilities of light.

The next point that possesses most saliency is that of ventilation. No person should habitually use a room that gives much less than 1,000 cubic feet of air space to each adult occupant, and whose ventilation is incapable of renewing the atmospheric contents every two hours.

You may urge the objection that I am not giving you an article on therapeutics, but have branched off on sanitary science. You have it exactly; that branch of therapeutics that is not founded on sanitary science hardly amounts to good nonsense now.

Well, as to ventilation of the sick room: all the reasons obtain that should govern the ventilation of rooms of healthy occupants, with this addition, that in nearly every case there are more or less specially vitiated emanations from the lungs and skin, which are loaded with fomites or diseased germinal matter, which are extremely deleterious when breathed by other persons or rebreathed by the patient.

Forty thousand cubic meters of carbonic acid are evolved each twenty-four hours by the average adult. This not only carries the ordinary noxious and toxic qualities of this deleterious gas, but by its baneful organic particles it is prepared to sow the seeds of contagion in the bodies that it has first rendered susceptible by an impairment and weakening of the vital forces.

Observe the effects that good ventilation and sunlight have on persons affected with scrofula, phthisis, anæmia or chlorosis, or any of the diseases where the blood is vitiated or impoverished, or in those cases of diseased enervation that require a special tonic treatment, and you will find that you increase tenfold the capacity for recuperation by a free use of these potent and beneficent agents.

On entering the sick room the details should be taken in as perfectly as possible. Next after ventilation comes perfect and thorough cleanliness. This should embrace the floors, the walls, the bed, person and aliment of the patient.

The habit of carpeting sleeping rooms is pernicious, but at present we are compelled to tolerate it. A small square of carpet to stand on while dressing in cold weather is all that sound hygiene requires. A moment's reflection will convince you that, aside from the great quantity of foreign particles that become detached and are taken into the air passages, the texture of the cloth makes it a favorable nidus for the accumulation of infection.

Next, all excrementitious matters, either fluid or solid, should be removed the instant they are voided, and in many cases they should at once be disinfected by some one of the well known substances used for that purpose. This part of therapeutics should be rigidly enforced. The skin, in all cases, should be kept as clean as possible, and the coverings of person and bed should be frequently changed, always with the precaution that the fresh clothing be well aired and free from dampness.

The question of quality and quantity of food must be governed by the character of the disease, the circumstances and habits of the patient, and the changing desires that he may manifest.

Generally, unless there are strong special grounds for objecting, a small quantity of any wholesome article of diet is allowable at his desire. There is more restorative power in some indifferent kind of aliment craved by the patient, than in the most suitable that we could select, if repugnant to him. *But in all cases*, food when brought to the sick bed and offered, whether partaken of or not, should, as soon as enough is taken, or it has been refused, be at once removed from the room, that it should not produce distaste by dwelling too long in sight, or be contaminated by the emanations from the body of the patient.

Tiptoeings and whisperings in the sick room ought to be prohibited by law, and punished as a misdemeanor. There is nothing more grating to the nerves of a sensitive patient than such things, and a morbid imagination is apt to take hold of and magnify the most innocent and harmless, perhaps irrelevant, whisper into the most direful prognostication. You can rely on it, that being sick not does make one a fool.

Then there is a class of busybodies that are always suggesting something, or asking the physician if this or that would not be good, or tormenting the patient with questions, and so taking away that ease and serenity that are so essential to a quick recovery. They, too, should be suppressed by law, *or physic.* Cheerfulness, coolness and a not too pronounced sympathy, are excellent adjuncts to the sick room.

Generally some kind of medication is necessary, not because of its absolute curative tendencies *per se*, but frequently for the moral effect it exerts on the imagination of the patient. I am well convinced that pounds of medicine are taken where ounces would be too much for the welfare of the race; but we will have to approach this part of the subject by easy gradations, and

watch how nicely the patients, in the main, recover who have the minimum of drugging lavished on them. Care must be taken not to retard recovery in cases where we know the tendency of the disease is toward self-elimination. Such are nearly always self-limited, and given a fair chance and a little assistance in the right direction, they prove that mother nature can be real nice to her children.

These thoughts suggest themselves by having during the past winter treated several cases of pneumonia, and well developed and typical cases too, by the purely expectant mode. They all got well. I have sometimes doubted, and, to be more explicit, I doubt now, if, aside from making the patient comfortable as far as possible by the use of external applications, and the internal use of anodynes, we add anything to the chances, or that we accelerate the recovery one whit by all our active interference. I will go a step further, and say that I believe that the recovery is retarded nearly always by active interference. Of course in malarial complications, quinine is required as an antidote, not to the pneumonia, but to the poison that is cotemporaneous with it.

Why should you medicate strongly in pneumonia? Neither you nor any man alive knows, at this time, what the real pathology of the disease is. We know its physical signs, and its *post mortem* vestiges; but we might as readily decipher, by seeing the wheels of the locomotive revolve, the name of the engineer, as to tell by these, the real pathology of it. The inflammation of the lining is not the start of the disease; it is behind that. To be sure, that is what is most manifest to the senses; but there must be something that has potency, that can change the chloroides from the urine, or rather that can rob the urine of its normal quantity of chloroides that it was wont to receive from the blood, and cause it to be rejected through the sputa. You might as well say that the track of a man you saw printed in the ground was the man himself as to say the lung manifestation was the true disease. Of course the name is at present the most appropriate, because we have no other that appeals to the understanding so well; but certainly crepitus, dullness on percussion, hepatization, extravasation through the capillaries, sputa, generally at first of brick dust or prune juice, and afterwards of mucopurulent matter, metastasis of the chloroides, neither one nor all of them are more than an unmistakable manifestation of some baleful power behind which is the real nosological entity.

I have made my article so long that I have left myself no room to say aught of the remedial agents in treatment of the classes of diseases mentioned, but I omit them with the less regret as I believe that with the aid of sunlight, pure air, cleanliness, an equable and agreeable temperature, and suitable aliment, it does not so much matter who the doctor is, so he avoids doing too much.

MADISON COUNTY (ILL.) MEDICAL SOCIETY.

UNREQUITED TOIL. By H. M. SABIN, M. D., of Edwardsville, Ill. Read before the Madison County Medical Society at Troy, Ill., July 29th, 1879.

Science, like religion, has always had her votaries; what the world calls "blind devotees at an unworthy shrine."

The priest in his cloister, the hermit in his cell, were the ancient types of religious devotion, enthusiasm or fanaticism, while the astronomer, alchemist and philosopher were the representatives of the devotee of science.

These two elements in our nature, the religious and the desire for knowledge (this was the crime by which the angels fell), have furnished the motive power which is to be the measure of human progress in the world. The seclusion, reticence or retirement of the individual are but necessary concomitants of a life of exclusive devotion to any great and worthy object.

It has been truthfully said that "no man can become truly great until he has an object of desire for the attainment of which he would sacrifice his life," and that "the measure of his greatness will depend upon the worthiness of that object and the degree of his devotion to it." By this standard science, in many of its departments, has had many great men. Many have died in its pursuit, stimulated by no other recompense or reward than temporary applause, perhaps, and an approving conscience.

If this spirit of martyrdom shall wane, on what pabulum shall man feed to renew this his (then) ancient type of manhood? The time was when scientific pursuits were maintained by the State—i. e., the public were required to contribute support to that which was for the public weal.

In some departments of science this is true to-day in this country, but not in medicine, except recently in the art or practice of medicine in a few States, affording it protection of a limited kind, and in the employment and encouragemont of sanitary commissions as a necessity.

Shall monied capital say to science and its pursuit, "We recognize only virtue in the last link of a chain which is productive of immediate pecuniary returns?" Shall science and art be dissevered? Can they be, even at the behest of men, arrayed against its practical utility? Yet men find encouragement and support in the art or practice of saving human life who do not know the alphabet of that or any other science.

To all of these a winning address and pleasing manners and

sympathy are a sufficient passport, while they know that these qualities are the whole stock in trade of the libertine and the knavish impostor. Others are won by eccentricities, believing them to be indications of genius. This thing is, in a measure, true of all science.

We have, in our day, truculent speculators in crime, criminal jobbers, haters of virtue, lovers of vice, villainous time-servers, sycophantic parasites of fraud and villainy, scurrilous traducers of truth and virtue. Such are the blind and malevolent who compose the army that would scandalize or contravene our noble calling,

Still further, how is it with a portion of the ministry itself, members of that other branch of the parent stock of "benevolence and good will to men?" Have they forgotten their brotherhood? Are they ignorant? If so, would that be any justification, according to the doctrine they preach? Have they not watched the advance of scientific medicine? or could they not have done so? One would think (to be as charitable as possible) that they had become *fatalists*.

I only speak of those modern preachers of Christ, who lend their names and influence, by support, recommendations and certificates, to the most unprincipled quacks and their panacea advertisements. We know that often their names and influence carry the libertine who has graduated only at a whisky saloon into a money-making practice.

To recapitulate—The intimate relation of all the natural sciences to that of medicine, the necessity for a comprehensive knowledge of them all, even to the minutiæ, the natural qualification and labor necessary for such varied acquisitions, and the sound common sense required for the successful application of the combined results of this unity of science to practice, and above all the dower, as the hand maid of religion, which medical science received at her baptism, "to heal the sick and all manner of diseases," and to accept the boon of unrequited toil, must not be forgotten in estimating our rank among the liberal professions, or the claims of her worthy student practitioners as chivalrous philanthropists.

For want of allotted time I must omit to speak (as I had intended) of some of the errors (concealed from the public by their very nature and known only to medical men) of those who assume our name and duties without the right or the requisite knowledge; in chemistry combining incompatibles, or ordering fulminating or poisonous compounds, of which the druggist alone takes note; fatal omissions in the hygienic conditions of the sick room, to say nothing of the practice inself; and the necessity of keeping steadily in view the natural history of the disease under treatment, of which they are supposed to know little or nothing, etc., but simply as contrast between the unqualified practitioner and him who harmonizes the minutiæ of detail with the compre-

hensive exactions of science and to show how far from possible it must be for the ignoramus and quack pretender to have any just claim upon the public, even to toleration.

But it would be more profitable for us to determine how we can best widen the interval between us and them, and, protecting our noble science, to win that public recognition and support which is her due. Can our science, by this means alone, purge itself from its enemies, without the recognition and support of the State? If the State protects us from without we must purify ourselves from within of all unworthy claimants.

Are proscriptions necessary to this end, and would they accomplish the result?

I fear the mercenary spirit and the potency of necessity have entered even the sacred precints of science, and often converted her gold of philanthropy to dross, or at least tarnished her escutcheon.

Let us use the means the State has furnished us vigorously, hoping that American ideas of freedom and independence will not be so interproted *license* that the State will not, as we may by merit sustain our claim, refuse us support, until (as in the States of the old world to-day,) our States shall build up a bulwark about our science which shall protect the welfare of its citizens against all unscrupulous pretenders.

TRI-STATE MEDICAL SOCIETY.

SYNOPSIS OF THE FIFTH ANNUAL MEETING AT EVANSVILLE, IND.

The fifth annual Convention of the popular and rapidly growing Tri-State Medical Society (Indiana, Illinois and Kentucky), was held at Evansville, Ind., commencing on Tuesday, November 4th, and lasted four days.

The numerous attendance of members indicated a deep interest in the matters under discussion. A large number of papers were read and intelligently discussed. A spirit of much cordiality was displayed to members by the good people of Evansville, and special rates of travel were provided by railroad and steamboat companies. The papers read before the Convention will from time to time appear in the JOURNAL commencing with the next issue. For the present we submit a synopsis of the proceedings.

Dr. A. M. Owen, Chairman of the Committee of Arrangements, introduced to the Convention Dr. J. A. Ireland, of Louisville, Ky., the President of the Tri-State Medical Society.

President Ireland:—I feel that it is a privilege and honor to be on this stand to-day to preside over the deliberations of such a body as this; and before we commence business I ask the privilege of introducing the Rev. Dr. Martin, who will invoke the Divine blessing on the meeting.

Prayer was here offered by Rev. C. B. H. Martin.

Judge W. F. Parrett being introduced then delivered an address of welcome. In behalf of himself and in the name of the people of the city of Evansville, he saluted the gentlemen present and bade them a hearty welcome. He indulged in some reminiscences of early pioneer days, and alluded to the difficulties under which physicians labored while the State of Indiana was comparatively a wilderness. He paid a high compliment to the magnanimous spirit displayed by the medical profession in time of public calamnity, and concluded by hoping that the meetings would be profitable and pleasant to all.

Dr. J. M. Holloway, of Louisville, Ky., made an eloquent response to the address of Judge Parrett.

Dr. J. R. Weist, of Richmond, Ind., followed with an address of welcome to members from the States of Kentucky and Illinois. As President of the State Medical Society he extended to the members a cordial welcome, recognizing that they had met in the city by the beautiful river for no selfish purpose, but to consult as to how they might remove pain, terror and disease,

and point the people to the way of happiness and life. He alluded to the necessity of a high standard of learning and scholarship and hoped that when they returned to the fields where blue grass grew and to the broad prairies, they would carry with them pleasant memories of that meeting.

President Ireland extended a cordial welcome to friends who had come from Missouri, Ohio and other States, and announced that the meeting was ready for business.

Dr. Owen read letters from eminent physicians, who regretted their inability to be present at the Convention.

Dr. G. W. Burton, Secretary of the Convention, read a brief report, in which allusion was made to the fact that the papers read before that body last year had been in request by publishers in every State of the Union, and in parts of Europe.

Dr. F. W. Beard, Treasurer of the Convention, made a report, showing a balance of $56.70 on hand.

AFTERNOON SESSION.

Dr. Thos. F. Rumbold, of St. Louis, read a very able papor on the treatment of pharyngeal and aural tumors by hypodermic injections of carbolic acid.

Dr. S. E. Munford, of Princeton, Ind., read a paper on pulmonary consumption. He referred to the announcement made by Prof. Flinn, that the disease itself tended to recovery, and he expressed the belief that much might be done by proper hygienic treatment in staying the progress of the disease and in working a permanent cure. The theory that relief was spontaneous was as pernicious in its influence as it was erroneous in teaching. The speaker particularly insisted on the necessity of a careful diagnosis in case of lung trouble.

Dr. J. F. Hibberd, of Richmond, Ind., read a paper on the same subject.

The papers were discussed by Drs. Stevens, Beard, Holloway and Center.

Dr. J. W. Compton read a paper on epidemic scarlatina. The Doctor related his experience in a recent epidemic of scarlatina, and expressed a decided belief in the contagiousness of the disease.

Dr. C. V. Jones combatted the assertion of the last speaker in regard to the contagiousness of scarlatina.

Dr. H. B. Buck also discussed the paper. He had seen a case of scarlatina that might have been taken for a typical case of diphtheria. He claimed that scarlatina had been transferred from one schoolhouse to another.

PUBLIC MEETING.

In the evening a meeting was held at the same hotel, to which the public generally were invited. There was a large attendance, including many ladies.

Dr. Ireland, President of the Society, delivered an address, entitled "Gleanings from the History of Medicine." He quoted passages from Scripture in proof of the antiquity of the profession of medicine, and cited some of the beneficent discoveries of modern times, such as inoculation for the prevention of small-pox.

Dr. E. Williams, of Cincinnati, then delivered an interesting address on "The Drink Muddle." In the course of his remarks he stated that the best authorities were not agreed on all points in regard to the effects of alcohol when taken in small doses. The glow of pleasure which it produced was the popular argument in its favor. It was in no proper sense a food, as had been claimed; it gave no additional vital force. The Doctor gave some hints on the subject of reformation in the drinking customs of the country, favoring the opening of picture galleries and other places for the innocent recreation of the people.

SECOND DAY.

The Convention met pursuant to adjournment.

Dr. Thad. M. Stevens, of Indianapolis, read a paper on "State Medicine, Quarantine and Isolation." The writer made a number of suggestions as to how State Governments might aid medicine through legislation.

The paper was discussed by Drs. Hibberd and Freeland.

Dr. Gardner, of Indiana, read a paper on the subject of Milk Sickness, giving the particulars of some cases that had come under his notice, and stating the result of microscopic examination in relation thereto.

Remarks were made by Drs. Ireland, Jones, Rumbold, Hibberd and Bray.

Dr. Holloway read a paper on "The Symptoms of Peri-Nephritic Abscesses," in which he cited the particulars of several cases which had come under his notice.

Dr. J. R. Weist, of Richmond, Ind., read a brief paper on "Two Cases of Fracture of the Spine." In the first case, the injury was of a mixed character, consisting of fracture and dislocation. The second case was that of a young man who had been crushed by the fall of an elevator, and the injuries were of a similar character. The Doctor had made use of a plastic jacket, with satisfactory results.

Dr. Walker read a paper in relation to a case of neuralgia, the disease having a syphilitic origin. The subject of the treatment was a steamboatman, and he was assigned a seat on the platform. From the Doctor's remarks it appeared that the patient had been examined by a number of physicians, and they declared that

syphilis had nothing to do with the neuralgia, which was the source of excruciating pain. Dr. Walker, however, resorted to anti-syphilitic treatment, and his efforts were crowned with complete success.

Dr. Holloway expressed his gratification at hearing the admirable paper just read.

AFTERNOON.

Dr. Higgins read an admirable paper in favor of a thorough vaccination against varioloid.

Dr. J. W. Singleton, of Paducah, Ky., read a paper on the progress made in the department of midwifery during the past year. The speaker's remarks were occasionally of a highly rhetorical character, and were both instructive and entertaining. Reference was made to the subject of the obstetrical forceps, and allusion was made to the recent discussions on that topic at the meetings of the St. Louis Medical Society.

The paper was discussed by Dr. Beard, Dr. F. Smith and Dr. Moore, of Illinois.

Dr. John Green, of St. Louis, read a paper entitled "Strabismus," giving an account of certain imperfections of vision, and their mode of treatment.

The members of the Convention were entertained at a grand banquet at night.

Among the members present were the following physicians: B. Newland, Bedford, Ind.; S. E. Munford, Princeton, Ind.; J. M. Holloway, Louisville, Ky.; G. B. Walker, Evansville, Ind.; T. M. Stevens, Indianapolis, Ind.; Jos. Gardner, Bedford, Ind.; J. A. Randolph, Vincennes. Ind.; J. F. Hibberd, Richmond, Ind.; T. B. Moore, Belleville, Ill.; Edw. Borck, John Green, T. F. Rumbold, St. Louis, Mo.; W. S. Barker, Booneville, Ind.; L. B. Bitz, Blairsville, Ind.; J. A. Scudder, Washington, Ind.; H. J. Walters, Maconville, Ind.; W. G. Kidd, Princeten, Ind.; A. C. Woodruff, Owensville, Ind.; W. A. Hunt, Lysonville, Ind.; A. DeFoe, Illinois; A. W. Spain, Poseyville, Ind.; A. C. Beyer, Vincennes, Ind.; S. H. Charlton, Seymour, Ind.; V. C. Benson, McLanesboro, Ill.; W. S. Ross, Chas. E. Living, Evansville, Ind.; H. Dunning, Pana, Ill.; N. S. Gaddy, Indiana; W. B. Scales, Booneville, Ind.; N. B. Jones, Indiana; A. R. Byers, Petersburg, Ind.; W. W. Daily, Booneville, Ind.; H. B. Buck, Springfield, Ill.; F. W. Beard, Vincennes, Ind.; J. W. F. Gerrish, Seymour, Ind.; B. J. Day, W. G. Rastohn, Ed. Walker, Evansville, Ind.; C. V. Jones, Covington, Ind.; J. L. Dow, Evansville, Ind.; J. W. T. Ginis, Indiana; W. Chatham, Louisville, Ky.; Jno. Melhausen, Evansville, Ind.; S. H. Pearce, Mount Vernon, Ind.; Geo. F. Center, Evansville, Ind.; J. A. Ireland, Louisville, Ky.; B. R. Helm, Carlisle, Ind.; Ferdinand Smith, Franklin,

Mo.; A. M. Owen, Evansville, Ind.; G. G. Barton, Washington, Ind.; C. P. Bacon, Evansville, Ind.; J. R. Weist, Richmond, Ind.; W. W. Blair, Princeton, Ind.; J. O. Stilson, Evansville, Ind.; A. T. Steele, Z. Ball, Wareland, Ind.; Chas. Knapp, Indiana; W. Z. Cole, Blairsville, Ind.; S. C. Henderson, St. Philips, Ind.; W. R. Davidson, Oscar Kress, Evansville, Ind.; Ed. Murphy, W. M. Hatton, New Harmony, Ind.; J. F. Freeland, Indiana; T. H. Crowden, Sullivan, Ind; T. J. Ford, Russellville; J. Hall, Owensboro, Ky.; C. D. Pearson, Indianapolis, Ind.; B. W. Stone, Kentucky; Ed. V. Spencer, Mount Vernon, Ind.; J. W. Compton, Evansville, Ind.; R. M. Higgins, Manchester, Mo.; C. J. Keegan, Canal, Ill.; E. W. Keegan, Crawfordville, Ind.; W. C. Ransom, Hartford, Ind.; J. J. Thompson, Sullivan, Ind.; A. Dixon, Henderson, Ky.; W. P. Hornbrook, Union, Ind.; A. C. Woodruff, Owensville, Ind.; G. W. Burton, Mitchell, Ind.; E. H. Gregory, St. Louis, Mo.

EXHIBITS AT THE CONVENTION.

A part of the hall was appropriated to the display of surgical instruments and medical preparations.

Mr. Eli Lilly, of Indianapolis, exhibited a superb collection of pharmaceutical preparations, prominent among which were fluid extracts, gelatine-coated pills, sugar-coated pills, and elixirs. The laboratory of Mr. Lilly is considered one of the largest and finest in the West, and its productions are excelled by few, if any.

Alex. Heburn & Co., of St. Louis, exhibited a selected assortment of surgical and dental instruments in their rooms in the St. George Hotel These rooms were visited by the members, many of whom were well pleased with the display.

Messrs. Aloe & Hernstein, of St. Louis, displayed a fine assortment of surgical instruments of their own manufacture. Nearly every variety of instrument in demand by surgeons could be found here. Electric batteries of a fine description were included in the display.

Messrs. Buntin and Armstrong, manufacturers and dealers in surgical instruments, Terre Haute, Ind., also made a creditable display.

Messrs. Chas. T. White & Co., manufacturing chemists, New York, exhibited specimens of quinquinia, consisting of the alkaloids of cinchona bark, in the form of a light brown precipitate. This preparation is intended to meet the general demand for an efficient anti-periodic and tonic at a moderate price.

Messrs. Parke, Davis & Co., manufacturing chemists, Detroit, Mich., purposed having a display of their goods at the Convention hall, but owing to some mistake or accident on the railroad the articles did not arrive in time to be put on exhibition. The

goods of this house are highly esteemed by the medical profession, and are sold in every State of the Union. The house has been established about fifteen years, and holds a prominent position in the West.

As the morning session of the fourth day was drawing to a close, it was suggested by the Secretary to make the adjournment final. A great number of the members had attended the meeting from the beginning and were becoming anxious to return to their homes. Although there were papers more than enough to occupy the afternoon session, the suggestion to adjourn met with hearty approval. The President elect, Dr. H. B. Buck, of Springfield, Ill., was escorted to the platform. After some appropriate and very feeling remarks were made by the retiring President, Dr. J. A. Ireland, Dr. Buck addressed the meeting. He accepted the duties and responsibilities and honors of the position, not without trepidation, but, relying upon the sympathy and co-operation of the members, he hoped to be instrumental in perpetuating that beautiful progress which had marked this Society from its beginning.

Dr. G. W. Burton moved that a vote of thanks be tendered Dr. J. A. Ireland for the efficient, successful and highly satisfactory manner in which he had discharged the duties of President. This was duly seconded and carried. A similar vote of thanks was also tendered Dr. Burton for his untiring zeal in the interests of the Society and in his duties as Secretary. Dr. Massey, of Cincinnati, moved that a vote of thanks be given to Dr. A. M. Owen for the excellent manner in which he had discharged his duties as Chairman of the Committee of Arrangements. This motion was seconded by Dr. H. C. Fairbrother, who suggested that the motion be made to extend to the amiable wife of Dr. Owen, who had so efficiently and pleasantly participated with the Doctor in the work of making the visitors to this delightful city sorry they had to go away at all.

A vote of thanks was also extended to the physicians of Evansville for their hospitality, but especially to Dr. Bacon and his estimable lady, who had contributed so much to the enjoyment of the members. A similar vote was given to the press of Evansville for their correct and complete reports of the proceedings. At this point Dr. Gerrish, of Seymour, Ind., stepped to the front of the platform and remarked that while our gratitude and thanks were flowing in so many and just directions, there was yet another object which should not be overlooked. The ST. LOUIS MEDICAL AND SURGICAL JOURNAL had done more for this Society than could ever be estimated or ever repaid by a vote of thanks. The editor of that journal, Dr. Rumbold, had for four years been an active member of this Society and a zealous worker in all its

meetings. For the past year he has published our proceedings gratuitously and agrees to continue to do so. Thus our papers and discussions are not confined to our own members, but read in every State in the Union. He moved that a vote of thanks be extended to Dr. Rumbold, which was heartily and unanimously carried. Dr. Gerrish remarked further, that in consideration of what this journal was doing for our Society, every member should be a subscriber to it, and he would assure every one that might be a stranger to the JOURNAL that he would be subscribing for one of the best and cheapest medical journals in the United States.

The Society then adjourned to meet on the second Tuesday of October next, at Louisville, Ky. G. W. BURTON, Sec'y.

Clinical Reports from Private Practice.

FOREIGN SUBSTANCE IN THE NOSE. By FLAVEL B. TIFFANY, M. D., of Kansas City, Mo.

Mrs. R. consulted me Sept. 20, 1879, respecting her little son, Dana, aged six years, who, she said, had been suffering from catarrh of the nose for upwards of three years. She thought that the bridge of the nose must be nearly undermined, as the disease was of so long standing and the discharge so very profuse and offensive; *so offensive* was it that unless she syringed the nostrils daily with a carbolized solution which her family physician ordered, the effluvia was very repulsive to any one approaching the child. Upon dilating and illuminating the nostrils, I found lodged in the right nasal fossa, between the anterior border of the inferior turbinated bone and vomer, a dark object, which had the appearance of a small marble, and by further examination with a probe I found the object movable and free from the surrounding parts. I remarked to Mrs. R. that her son had a foreign body in the nose. She expressed great surprise and thought it not possible, as the object I saw had been there over three years, and besides, her family physician had told her that it was a case of oscares, and as soon as the child should be old enough, an operation would be necessary, viz., the laying open of the nose and removing the dead bones. I told her that all the oscares, if any, had been caused by the foreign body and after that was removed the catarrh would probably disappear. I now proceeded to remove the body, but the little child, becoming frightened, resisted so that I thought best to desist for the time being. After a few days the father brought the boy back and under an anæsthetic I removed the so called oscares, which proved to be a good sized shoe button, which the child probably put into his nose upwards of three years before. After cleansing the passages by means of the posterior nasal syringe, I found that the button by its pressure had caused suppuration and absorption of the anterior portion of the vomer and its immediately connected tissues, producing an opening as large as a crow's quill.

After two subsequent treatments by washing the parts with a solution of plumbi-subacetates the effluvia entirely disappeared, and in one week's time the discharge was quite checked.

My object in reporting this case is not so much on account of its gravity as it is to suggest the importance of careful and thorough examination, and caution in giving a diagnosis such as may be sustained, not only for the welfare and comfort of the patient, but in justice to ourselves as scientific medical researchers.

Book Reviews.

LECTURES ON CLINICAL MEDICINE. Delivered in the Royal and Western Infirmaries of Glasgow, by McCALL ANDERSON, M. D., Professor of Clinical Medicine in the University of Glasgow. With illustrations; pp. 268. [London: Macmillan & Co. 1877.]

The introductory lecture is devoted to the importance and method of conveying clinical instruction, illustrations of recent progress in the field of practical medicine, etc. In the first opening paragraphs he shows the great importance of clinical teaching and makes some wise suggestions as to the mode (said mode has been followed for a long time by the leading colleges of St. Louis and we think of the United States), as our institutions do not underrate the great importance of clinical teaching. In speaking of the more recent advances and discoveries in the field of practical medicine, he says of the laryngoscope: "Previous to its discovery hardly anything was known of laryngeal diseases from a clinical point of view; our knowledge was of the vaguest and most unsatisfactory kind. Now, by means of it, we can diagnose them with clearness and precision, and can distinguish laryngeal affections from those presenting pseudo-laryngeal symptoms." He thus speaks of the sphygmograph: "The field of its utility appears to be exceedingly limited, and I know of no disease which can with certainty be diagnosed by means of it which could not be ascertained by the ordinary methods of examination." He claims that it is much more likely to be appreciated by the physiologist than the physician. Medically speaking, it is little more than an interesting toy, not likely to come into general use in practical medicine. This we believe to be true of the instrument as at present constructed; improvements will sooner or later be made on it, so as to make it of practical value. It is far otherwise, our author says, of the clinical thermometer. The investigations of Wunderlich and others have shown that by careful and repeated observations of the temperature of the body, valuable information as to the nature of disease may be obtained, and even in some instances by its means alone, a diagnosis may actually be arrived at. Our author thinks that it will come to be valuable chiefly for one or two reasons: Either to ascertain the presence or absence of pyrexia in doubtful cases, or when fever is undoubtedly present, to guage its intensity. We cannot agree with our author when he says: "The introduction of the clinical thermometer as an infallible guide to the intensity of the febrile state, has led on the part of a few to

the systematic adoption of a method of reducing the temperature in cases of hyper-pyrexia, and one which is far more effectual than the administration of drugs." This consists in the sucking of ice, the application of iced cloths to the surface of the body, the cold douche and the cold bath. The application of cold water in such conditions as cited above, has been made long before the clinical thermometer had an existence. Iced drinks, ice water, iced lemonade, we have freely used long before we ever saw a clinical thermometer.

Our author thus enumerates the advantages of the aspirator: 1st, the simplicity of the operation; 2d, its safety, which is due to the fineness of the hollow needle employed, and the impossibility of air entering the cavity containing the fluid, no matter where situated or what its nature may be; and, 3d, the uniformity which it affords in the treatment of pathological fluids by operations.

The following are the advantages of the hypodermic syringe: 1st, the remedy is quickly absorbed and its therapeutical action occurs with great rapidity; 2d, its effects are much more intense than when administered by the mouth, and hence smaller quantities are required, which is sometimes a consideration; 3d, in certain cases it is the readiest way of bringing the patient under the influence of a drug; 4th, its action is much more certain than when introduced into the stomach, where it is liable to decomposition; 5th, in the case of some drugs unpleasant symptoms, such as vomiting, may sometimes be avoided.

The remedies used by him are morphia for the relief of pain and cough, atropia for the arrrest of perspiration, strychnia for paralysis consequent upon diphtheria, quinine for the cure of ague and rheumatic fever, corrosive sublimate with the view of counteracting the effects of a syphilitic taint in the blood, ergotine for the arrest of hemorrhage.

In his remarks upon electricity as a means of combating disease, he says, while a great majority of the profession entertain serious doubts as to the reality of the remarkable successes which are now and then recorded by medical galvanists. "Now why is this." The cause is not far to seek. He says, "it is due to the ignorance of the great majority of those who use it, as to the form of electricity which should be used in individual cases, as well as to its intensity and quantity and as to the mode and duration of its application." He further discusses the subject in lectures VIII and IX, when treating of aneurism of the arch of the aorta, in which he relates some cases successfully treated by the galvano puncture, and very frankly admits some failures. We like to see our distinguished authors and teachers admit their failures, "for often as much instruction is to be obtained from our failures as from our successes," so says the author himself. Further on, in speaking of this plan of treatment in aneurism of the arch of the aorta, "if carried out upon correct principles and

with due care, it is comparatively harmless and safe, but while it is far from uniformly successful, it has been the means of prolonging life to an extent which could hardly have been expected and which is gratifying indeed." This plan we think has not as yet become popular with the profession, and has met with some adverse criticism.

Lecture II is devoted to cases illustrative of pain as a symptom of disease. These cases are all interesting and instructive, as showing the necessity of ascertaining if possible "the nature of the morbid state of which it is the expression, before devising measures for its removal. We have neither space or time to review in detail the cases reported in the several lectures, for these lectures are reports, to a great extent, of cases and their treatment, all of which will amply repay the perusal.

Lecture XII is devoted to acute phthisis or galloping consumption and its curability, by which I mean, not ordinary cases of phthisis, associated with fever, but those rare forms in which there is high and continuous fever, generally of the typhoid type, so that the disease has some superficial resemblance to typhus or to a severe attack of enteric fever, which tends to run its course in a few weeks and to terminate fatally unless grappled with energetically, and before the lungs are irredeemably damaged. He then gives us the views of Walsh, J. Hughes Bennet, Sir Thomas Watson and Dr. Williams as to the diagnosis and the prognosis, which, from quotations made from these authors, is always unfavorable, Trousseau using the following words: "In galloping consumption the prognosis is death; death sooner or later is invariably the termination. Hitherto art has unfortunately proved unable to contend against this redoutable malady; it is still more distressing to know that we have not the power even to alleviate the condition of sufferers by whom we may be consulted." Our author then proceeds to give cases of what he is pleased to call galloping consumption which he has cured. We have space for but two of these cases.

"Case II.—Mary F., aged sixteen, admitted Nov. 16th, 1876. Complained principally of weakness of three weeks duration. Family history not good; had lost father and brothers; all died of consumption. She had enjoyed good health until three weeks before admission, at which time she began to shiver and feel stiff in the back of her neck, and pain in her left shoulder, was faint, had a slight, occasional, tickling cough, and perspired freely at night. At the end of a week she was said to have improved somewhat and to be able to go about, but soon increasing weakness, which was accompanied by loss of appetite, sleeplessness and profuse nocturnal perspirations, obliged her to take her bed. On admission her tongue was dry and coated in the center with a hard, white, thick fur, stopping short at the tip, which, with the edges, were red; her thirst great; great repugnance to food; menstruation regular; her skin dry and pungent; temperature

103° to 104°, the following morning 103° to 108°, in the evening 105°; pulse 120, of fair strength; respiration 22; the chest measured 30 inches, 30½ on forced inspiration; musical râles were heard all over both sides, both before and behind, and just as abundant at the apices as at the bases, while at the right apex there was some dullness and increased resistance on percussion; urine about 30 ounces, clear, high colored, sp. gr. 1020, depositing urates on cooling, containing a small quantity of albumen, which, however, soon disappeared. No tube casts. Treatment: Nov. 17, castor oil, two drachms, ice to suck, iced milk and soup frequently. On the 18th a pill composed of quinine, 1 gr., digitalis ½ gr. and opium ½ grain, was ordered to be taken every four hours. On the 19th the digitalis was increased to 1 gr. each pill. Notwithstanding the above treatment, she was progressing from bad to worse; her fever continued high. At 5 P. M. on the 20th, reached 105° to 106°. Her face and eyes were flushed; she had the dull, heavy, stupid expression of a typhus patient and was very drowsy; her lips cracked; her tongue very dry and thickly coated with a deep brown fur. There was great difficulty in getting her to take food. Took nothing but iced milk to the extent of a table spoonful every quarter. Pulse 128, soft and regular; a teaspoonful of brandy and water given every hour. On 21st passed water in bed; bowels moved without medicines; her breathing labored, 36 per minute; pulse 128 and weak; temperature 104°. She now began to expectorate slightly for the first time, her sputa being slightly rusty. The râles over the whole chest were much more abundant, and now partly musical, partly moist, while at the right apex, the dullness on percussion was more decided, and abundant coarse moist râles were then heard. On this day the cold cloths were applied to the abdomen for half an hour every two hours.

On the 22d there was a slight suspension of the dullness. The expectoration continued longer, with blood. Further on he says: "The pulse, from the commencement, was persistently high and weak. and on one occasion, although somewhat lowered, stood at 116; it never rose again above 60. From this time the patient began to improve, although the dullness at the right apex, and slighter and more limited dullness at the left, although decidedly less than before the arrest of symptoms, remained. This patient got well after taking cod liver oil for two months."

We will not follow the author through the entire history of case No. III, but give the prominent symptoms as detailed. He found this patient "in a high fever; temperature, 103° to 105°, with a dry cough; had lost his appetite; was emaciating rapidly; sleepless; perspiring freely; very weak; breathing rapid. There was decided dullness at the left apex. Three days after the doctor saw him he had risen from bed at night, and lay exposed on the floor for some time. His condition was much worse Had high fever; very weak; bathed in perspiration; the dull-

ness still more pronounced. Musical râles were heard all over the whole chest. He was very delirious; had the appearance of a patient in the advance of typhus fever. He was treated in the beginning with brandy and a pill of quinine, 1 gr.; digitalis, 1 gr., and opium, ½ gr., every four hours. At one time a subcutaneous injection of one-hundredth of a grain of atropia was injected at bedtime." We will not follow the history of this case further, as enough has been said to indicate the diagnosis.

In conclusion, the author asks: "Under what disease was our patient laboring?" He says no one who had experience in such cases, or saw them whilst progressing, could doubt that they were suffering from acute phthisis. With becoming modesty we differ with our author in the diagnosis of these cases, and must say they were cases of typhoid-pneumonia. That they were *not* acute phthisis we think is shown by the *post mortem* of the next case reported. A short history only of this case is necessary. "On admission, May 18th, was much emaciated; bathed in perspiration; pulse, 120 soft, compressible; temperature, 105°; respiration, 44; tongue coated; bowels regular; intellect obscured; face flushed; lips pale and nails rather livid; decubitus on his back; cough frequent; expectoration, purulent, etc. On examination of the chest moist râles over the most of both lungs, especially the left, more marked at the apices than the bases. In the former situation there was decided dullness on percussion. This patient died on the 30th. *Post mortem* made by Dr. Coats. The lungs were moderately adherent; at the apex of the left, several cavities were observed, while the remainder was extensively consolidated, being mottled, suggesting the name of frog spawn condensation. The right lung was similarly, though not so greatly affected. Dr. Coats, in his report, says: 'The lesion is not primarily and essentially of the nature which I call tubercular. The essential pathological condition seems to be a filling up of the air cells and smaller bronchi which becomes cheesy. The exudation, when fresh, is composed for the most part of cells, smaller than the usual large epithelial cells of chronic phthisis, reminding one of those found in acute pneumonia. There is also an occasional recurrence of a more homogeneous exudation in the air vesicles, which may perhaps consist of fibrin. I do not deny that a careful search through the lungs might have enabled me to detect tubercles, but as the primary lesion is such as I have described, such tubercles I would have regarded as secondary.'"

We think the author is unfortunate in his witness, whose testimony certainly corroborates the view we have taken of the cases, and that is, they were cases of typhoid pneumonia. The treatment is good, for it meets indications as they present themselves. We have said nothing of remaining chapters. The book is worth reading, as is everything written by McCall Anderson, although we may differ with him upon many other points. We will refer to them at some other time. J. M. SCOTT.

THE RADICAL CURE OF HERNIA BY THE ANTISEPTIC USE OF THE CARBOLIZED CATGUT LIGATURE. By HENRY O. MARCY, A. M., M. D.

This paper is a reprint from the Transactions of the American Medical Association, 1878, and the operation for radical cure here proposed is to cut down upon the sac and expose to view the borders of the external ring. The walls of the rings are then stitched together with the carbolized catgut under antiseptic precautions, and the wound closed. Healing by first intention is to be secured, if possible. The so-called radical cure accomplished by this procedure was discovered by the author in the result of two cases in which he operated for relief of strangulation, and then approximated the walls of the rings. The reduction of the hernia was accomplished in each case without incising the sac.

He thinks the operation is comparatively safe; is more satisfactory than any of the subcutaneous methods; and is at least entitled to a considerate trial.

REPORT ON INGUINAL HERNIA. By E. L. HERRIOTT, A. M., M. D.

This is an essay read before the Illinois State Medical Society, in which the author states the various procedures used in taxis. He says, describing his treatment for the reduction of hernia: "1st, Warm bath; 2d, Chloroform, commencing immediately on or before emerging from bath; 3d, Cold to tumor. By the first two we get perfect relaxation, and by ice to tumor we get contraction and condensation to this part, and by first drawing it downward, we wrest it from the grasp of the constriction, and those parts being relaxed, with the patient in the proper attitude, with a careful manipulation of the tumor, we have always been fortunate enough never to require an operation."

A judicious use of the various aids to taxis, in conjunction with an intelligent and skillful manipulation, will very often accomplish the reduction of hernia, but the author will yet find cases where he cannot reduce without operating. He is so confident of successful taxis that he endeavors to impress upon his readers his belief that operations are hardly ever necessary, and implies that they are often resorted to without being absolutely needed.

Such may in part be true, but, on the other hand, it is, I think, certain that great damage is often inflicted by long continued taxis, and the fatality of operative procedure very largely increased by the injuries entailed by taxis and its consequent delay. I think the majority of fatal cases of strangulated inguinal hernia with which I have been personally cognizant have had their termination fixed by the injurious effects of prolonged taxis.

Where the symptoms are urgent, the time allotted to taxis

should be measured by minutes, and failing to relieve, the operation should be at once performed, for delay is dangerous.

ESSAYS IN SURGICAL ANATOMY AND SURGERY.—An Essay upon the Surgical Anatomy and History of the Common, External and Internal Carotid Arteries; awarded the First Prize of the American Medical Association, June, 1878. An Essay upon the Surgical Anatomy and History of the Innominate and Subclavian Arteries; awarded the Second Prize of the American Medical Association, June, 1878. An Essay upon the Surgical Anatomy of the Tibio-Tarsal Region; awarded the (James R. Wood) Annual Prize of the Alumni Association of the Bellevue Hospital Medical College, 1876. An Essay upon the Surgical Anatomy of the Obturator Artery, and Notes upon the Surgical Anatomy of the Hip-Joint. By John A. Wyeth, M. D., of Little Rock, Ark. [New York: William Wood & Co., 1879.]

Two essays—one upon the surgical anatomy and history of the common external and internal carotid arteries, the other upon the surgical anatomy and history of the innominate and subclavian arteries—compose the greater part of this book. The author gives a complete tabular statement of the surgical history of all operations on these arteries and a minute record of his observations and measurements in numerous dissections of these arteries and their branches.

The work of preparation has been laborious, and the author has made deductions from his observations and the history thus tabulated, which are in some instances at variance with accepted views.

He claims to "prove that ligature of the common carotid for a lesion of the external carotid or its branches when there is half an inch between the seat of the lesion and the origin of the external carotid is wrong in principle, unsafe in practice, and should cease to be a surgical procedure." He also holds "it to be bad surgery which places a ligature upon the common carotid for a wound of the internal carotid artery."

The above quoted conclusions, as are most of those advanced by the author, are sound deductions from his anatomical data and the history of operative interference, but I cannot believe, as the author does, that ligature of the common carotid will generally be necessary where enucleation for malignant intra-orbital disease is necessary. Hemorrhage after enucleation for pulsating malignant or non-malignant tumor except it be aneurismal is readily controlled by pressure, and it is very rare to have secondary hemorrhage after such operations. I do not think that he is justified in recommending the ligature of the common carotid as a means of relief from *persistent* neuralgia. I think the uncertainty of relief and the high rate of mortality contra-indicate the procedure.

Ligature of the Innominate he considers unjustifiable except where instant death may be averted by it.

The subclavian in the first part of course should not be ligated, except for injury at site of ligature, and then if ligature falls within half an inch of innominate, the carotid and subclavian should be secured by double ligature, and each end proximal and distal twisted.

In the essay on "The Surgical Anatomy of the Tibia Tarsal Region," the most important point made prominent is that the posterior tibial divides into external and internal plantar, "on a level with a line drawn from the most dependent portion of the internal malleolus to the middle of the heel's convexity," and that the most important blood supply to the integument over the heel is from branches of the external plantar, and not from the posterior tibial. This is an important point to remember in making heel flaps.

In the essay on "Surgical Anatomy of the Obturator Artery" the author calls attention to the fact that in its distribution it is very constant, but in its origin is very uncertain, but is usually symmetrical, and that the artery is much more frequently derived from the deep epigastric in females than in males; hence it is in dangerous relation to the femoral ring more frequently in females than in males. H. H. MUDD.

GUIDE TO THE EXAMINATION OF URINE, with Special Reference to the Diseases of the Urinary Apparatus. By K. B. HOFFMAN and R. ULTSMANN. From the second edition; translated and edited by F. FORCHHEIMER, M. D. With illustrations; 16mo.; pp. 195. [Cincinnati: Peter G. Thomson, publisher, 179 Vine street, 1879.]

The translator places this work before the medical public, expecting a favorable reception because of its popularity on the Continent, and because of its nearly universal adaptation by the German High Schools. A large amount of space is spent upon methods showing how an examination of urine can be most readily and quickly made.

THE MEDICAL AND SURGICAL HISTORY OF THE WAR OF THE REBELLION. Part II, Vol. I, Medical History. Being the second medical volume, prepared under the direction of JOSEPH K. BARNS, Surgeon-General U. S. Army. By JOSEPH JANVIER WOODWARD, Surgeon U. S. Army. First issue. [Washington, 1879.]

This immense quarto volume of 869 pages treats of alvine fluxes. It contains forty-two plates and photo-relief cuts. Of these cuts twenty-five are copied from photo-micrographs made

by Dr. Woodward himself. They exhibit a great deal of care and painstaking on his part, and will stand as a grand monument of his skill and industry, as we have nothing like it in any of our medical works. At a future time the work will be fully reviewed in this JOURNAL.

FIRST STEP IN CHEMICAL PRINCIPLES. An Introduction to Modern Chemistry. Intended especially for beginners. By HENRY LEFFMAN, M. D. 16mo.; pp. 51. [Philadelphia: Edward Stern & Co., 1879.]

This is a neat little book. The author's purpose is to make clear those points in theory, notation and nomenclature which give trouble to beginners, by elaborate explanations and illustrations. It is especially adapted to medical students.

Editorial.

SINCE our last issue Dr. Thomas Kennard has "passed to that bourne from whence no traveler returns." In his death we have lost a true, honest and fearless friend and brother; the JOURNAL has lost one of its most zealous and learned collaborators; our Society one of its most useful and faithful members; and the profession a writer who added luster and true worth to its literature.

During the last few months our city has lost three of its prominent physicians. Besides Dr. Thomas Kennard, Dr. Benjamin Linton, the son of the founder of this JOURNAL, and Dr. Frank G. Porter. Of Dr. Linton our expectations were high, as he was a young man of more than ordinary ability and perseverance in his profession, and knowing that he was following the bright example of his father, we hoped for the perpetuation of the name, but an early death has robbed us of this.

While Dr. Frank G. Porter was not so fully known throughout the profession from his writings as was Dr. Kennard, yet in this city his name was by no means a stranger, for our city has received marked benefits from his executive ability while he was

connected with the Board of Health, and thousands of our families have known him as a true friend and a physician of uncommon skill and success.

THE TRI-STATE MEDICAL SOCIETY.

The last meeting of this popular and rapidly-growing Society was its most successful one. Although it had three sessions daily for four days, yet all of the papers were not read and discussions on all, even the most valuable papers, were cut short for want of time. There were a little over 300 physicians present, from Tennessee, Ohio, Missouri, Indiana, Kentucky and Illinois. That the JOURNAL was fully appreciated is shown by the resolutions passed, again giving the proceedings to the JOURNAL for publication, and in the resolution offered by Dr. Gerrish of Seymour, Ind., and passed unanimously, recommending that the members of the Society should take the JOURNAL.

For the benefit of our new subscribers we will not commence the publication of these proceedings until the January number. These papers will compare favorably with those of any Medical Society in the United States, and instead of their being buried in a book and sent to 300 readers, they will be published in the "most popular medical journal in the West." We flatter ourselves that it was a similar publication of their proceedings of last year, and the vigorous opposition of the Chicago medical press, that assisted in raising the popularity of the last meeting held at Evansville. We must not forget to mention that a great share of the success of the meeting was due to the excellent management of the President, Dr. Ireland; of the Secretary, Dr. Burton, and Dr. Owens, the Chairman of the Committee of Arrangements, and to the other officers of the Society.

SEMI-MONTHLY.

We have concluded to make another improvement in the JOURNAL; we do this by issuing it two times each month, that is, on the 5th and 20th, commencing with January, 1880.

Even the average practitioner does not wish to wait 30 days for the recent developments in medicine, while every physician

who is determined to keep in the van of his profession, *will* have the latest advancements placed before him as soon as they are made, and he will contribute to that periodical *only* which will soonest place the products of his researches before the greatest number of his compeers. It is to gratify this class of our readers and contributors that we make the change in the time of the issue of the JOURNAL.

The Collaborators for the JOURNAL will report the recent progress in their departments in the following order:

IN JANUARY, MAY AND SEPTEMBER,

LEGRAND ATWOOD, M. D., Venereal Diseases.
W. L. BARRET, M. D., Gynæcology.
WM. PORTER, M. D., Diseases of the Respiratory Organs.
FRED. T. LEDERGERBER, Esq., Medical Jurisprudence.
Y. H. BOND, M. D., Diseases of the Rectum.

IN FEBRUARY, JUNE AND OCTOBER.

H. H. MUDD, M. D., Surgery.
JOHN GREEN, M. D., Ophthalmology.
DRS. JUDD, EAMES and FULLER, Dental Medicine.
H. C. FAIRBROTHER, M. D., Physiology.

IN MARCH, JULY AND NOVEMBER.

C. M. LITTON, M. D., Chemistry.
J. S. B. ALLEYNE, M. D., Therapeutics.
W. E. FISCHEL, M. D., Diseases of Children.
HIRAM CHRISTOPHER, A. M., M. D., Collateral Branches.

IN APRIL, AUGUST AND DECEMBER.

J. M. SCOTT, M. D., Practice of Medicine.
WALTER COLES, M. D., Obstetrics.
C. W. STEVENS, M. D., and C. H. HUGHES, M. D., Diseases of the Nervous System.
F. J. LUTZ, M. D., Surgery (from the German).
EDW. MONTGOMERY, Materia Medica.

Obituary.

THOMAS KENNARD, M. D.

At a meeting of the St. Louis Medical Society, the following was passed as an expression of respect to the memory of Dr. Thomas Kennard:

With a deep sense of the sad and and irreparable loss we have sustained in the death of THOMAS KENNARD, Ex-President and honored member of this Society, we give expression to grief and record

IN MEMORIAM

this tribute to his manly virtues and excellencies, and to his professional capacity, attainments and standing.

Nature cast him in no diminutive mould; lavish of her gifts, he was not denied ability to acquire knowledge from books, but added thereto the capacity to create it by observations and experience. Thorough literary training and extensive reading formed an appropriate basis for his professional education. Assiduously he kept pace with the rapid progress of scientific medicine; patiently and energetically he practiced the art with enviable success.

Cosmopolitan in all of his views, the elevation of the standard of medicine was near to his heart, and while he inculcated needful professional reform, he demanded for medicine a more just recognition of its relations to government, society and the other noble professions, an enlightened secular and religious press, and an intelligent public. And for the welfare of profession and people he desired the safeguards and protection of wise legislation.

Eminently characteristic of our lamented brother was the bold and fearless advocacy of his views. He wielded a free lance, neither giving nor asking quarter. Concise, condensed and incisive, he grasped the gist and marrow of a subject, and whether in its presentation or defence wielded with grace and precision the weapons of debate. As he spoke so did he write, and his frequent contributions to our Journals and the various monographs emanating from his pen have elicited merited praise and remain an enduring monument to the enlarged views and ability of the writer.

For the administration of affairs he was singularly well adapted, and whether as President of the Society or Chairman of its important committees, he exhibited an acquaintance with par-

liamentary law and the routine of business which harmonized action and attained results.

Honest and honorable in all of his dealings, he strictly obeyed the spirit and letter of our ethics, and in professional intercourse he was marked by exceeding fairness and respect for others.

Capable, truthful and scientific himself, he despised quackery in all its forms, and his deep censure, mingled with contempt, fell heavily upon hypocrisy and pretension.

A man of strong character, it was not astonishing that he had devoted friends and decided enemies. The former testify to his kindly and affectionate nature, while the latter find more to admire than to condemn.

Only close association elicited a full knowledge of the gentle, kindly disposition which underlaid the sometimes harsh and severe exterior presented by our deceased brother.

He was, without ostentation, charitable, not only in speech, but in acts.

A strong man has fallen! A counsellor, friend and leader is lost to us forever! We sorrow with the family of our deceased brother, and offering this tribute to his memory, tender our condolences and express a hope that on "the other shore" he "rests from his labors" and reaps the reward of the just.

LEGRAND ATWOOD, M. D., Chairman.
J. M. SCOTT, M. D.,
ROBT. J. HILL, M. D.,
WILLIAM PORTER, M. D.,
W. L. BARRET, M. D.,
WM. JOHNSTON, M. D.,
E. F. SMITH, M. D.,
CHAS. W. STEVENS, M. D.,
J. R. LEMEN, M. D.,
A. C. BERNAYS, M. D.

BENJ. LINTON, M. D.

Dr. Benj. Linton commenced the study of medicine in the fall of 1868 by the advice of his father, Dr. Moses L. Linton. He took three courses of lectures in the St. Louis Medical College. In 1871 he received the degree of M. D., and commenced the practice of his profession. At the college and in the field of life he won warm friends by his gentleness of manner, fervor, trustworthiness and confiding nature. The resolutions of the St. Louis Medical Society, drawn by three of his most cherished medical brethren, are strictly true. He was a firm, sometimes apparently stubborn, disposition, but always generous and kind. He was liberal, but never profligate; on the contrary, careful of his means, for which he worked hard. The onerous duties of his profession, to which he was devoted, and the demands of which

he responded to with conscientious zeal, told upon his apparently strong constitution. In the spring of 1877 he visited an uncle, who lived in Iowa, and spent the summer in recreation. The exhilarating Northern air greatly invigorated him, and in the early fall he returned to his work much improved. However, his regained strength soon deserted him and the following February, while at the supper table, he fainted and remained for a short time in a state of coma. From this he never recovered, and his ailment gradually grew upon him, and with it, increasing weakness and apprehension. In June, 1879, he visited a sister in Illinois, but the trip was of no benefit to him, and he soon began to sink. On the 29th of this month, very much debilitated he returned to St. Louis, where he remained until his death. The best medical talent came to his aid, and he was constantly and tenderly nursed, but all to no avail. For three months he was compelled to occupy a large chair, being unable to rest in bed. Finally, in the early part of the evening of September 27th, he unexpectedly departed this life, with one arm about the neck of his devoted mother, Mrs. Ann R. Linton. His remains were removed to Calvary Cemetery, and were laid by the side of his father, Dr. Moses L. Linton.

At a meeting of the St. Louis Medical Society, held on Tuesday, the following resolutions were unanimously adopted:

Whereas, Dr. Benjamin Linton, a beloved and honored member of our profession, after a long illness, has been taken from us and from his earthly labors; be it

Resolved, That we hereby express our deep sorrow for our great loss, and that while we would not intrude upon the sacred grief of his family, we extend to them our sympathy in the greatest of earthly losses, and express our love and appreciation of him whose departure we mourn. Though cut off in his youth, yet his life had already borne fruits of much usefulness; his attainments, energies and abilities giving promise of a life which, if it had been spared, would have led to eminence. In his professional labors, as in his whole character, he displayed an earnestness of purpose (not measured by ambition) to excel, nor urged alone by desire for advancement, but springing from sincere devotion to truth. His profession he loved devotedly. He felt it his duty as well as his pleasure to attend the sick call at all times, whether made by the rich or the poor. Of him it can not be said that he ever failed in attention, in kindness, gentleness or care when attending to the wants of others. With his tenderness and quick-moving sympathy there was also firmness and strength. In his friendship he was faithful and true, trusting and confiding in his friends, and by his worth gaining from them full confidence.

Resolved, That in the death of our friend and brother we have suffered an irreparable loss, and that while we mourn his death,

we will ever cherish his memory and emulate his worthy life and example.

Resolved, That copies of these resolutions be furnished the family of the deceased and press of the city. Respectfully submitted,

E. H. GREGORY,
J. H. LESLIE,
L. L. MCCABE,
Committee.

FRANK G. PORTER, M. D.

Dr. Porter was born in Newcastle, Lawrence County, Pa., July 14th, 1829. He became a pupil of Dr. Horace A. Ackley, of Cleveland, O., in the year 1849. He graduated in the Cleveland Medical College in the spring of 1851. From his youthful appearance he was called the "Boy Doctor." In the spring of 1854 he came to the West in quest of a location for the practice of his profession. After visiting Chicago and the larger towns of Illinois and Iowa, he finally resolved to "pitch his tent" in St. Louis. He arrived in this city in May, 1854. From this time up to the period of his last sickness he applied himself to the practice of his profession, and his labors were well rewarded. In 1854 he became a member of the St. Louis Medical Society, the Missouri State Medical Association and the American Medical Association. He has held the distinguished position of Vice-President and President of the St. Louis Medical Society, which he filled to the entire satisfaction of his professional brethren.

The following are the resolutions passed by the St. Louis Medical Society:

We are called to pay respect to the memory of one who was but yesterday of our number. Words are feeble at such a time, but eloquent testimony to the worth of Dr. Frank G. Porter is the presence of so many of his friends and professional associates. A man of high intellect, strong purposes, untiring energy, and withal, honorable and courteous; needs not that we should remind this Society of its loss. In the business of life his manhood carried him ever to the front, and in the archives of this Society he has a record without a stain. Those who knew him best will mourn him most.

We respectfully submit that

Whereas the allegiance of Dr. Frank G. Porter to this Society is thus suddenly and forever severed, and

Whereas, both as a member and an officer of this Society he was unhesitatingly true and steadfast, performing his duty with more than ordinary ability, he shrank from no issue and lent his influence to no intrigue, therefore have we

Resolved, That we deplore the loss of this strong, brave man.

Resolved, That we rejoice in the record of our friend and comrade and bear witness to the pleasure and profit we have derived from his long membership.

Resolved, That we commit his bereaved family to the care of the Great Physician, who doeth all things well, and that as a token of respect and sympathy we attend the funeral exercises in a body.

CHAS. W. STEVENS, M. D.,
ROBT. J. HILL, M. D.,
W. L. BARRET, M. D.,
WM. PORTER, M. D.

News Items.

DR. GAILLARD, editor and proprietor of the *Richmond and Louisville Medical Journal* and the *Louisville Bi-Weekly*, has removed to New York City. He will issue his journals from this place. We wish the Doctor success in his new home, and hope that his journals will meet with many new friends who are paying subscribers. His monthly journal has for a long time occupied a place on the list of the leading medical periodicals of the country. We presume that there is hardly a well-read physician of ten years' practice in the land that does not have some volumes of this moritorious journal in his library.

VACCINE VIRUS can be had in limited quantities by applying at the office of the Board of Health. The virus comes from the Missouri Vaccine Farm, and is propagated by Dr. R. M. Higgins.

Books and Pamplets Received.

Seventh Annual Announcement of the Physio-Medical College of Indiana. Session of 1879–'80.

Vegetarianism, the Radical Cure for Intemperance. By Harriet P. Fowler. [New York: M. L. Holbrook & Co., 1879.]

Tracheotomy with the Galvano-Cautery. By Wm. A. Byrd, M. D. [St. Louis: Reprint from the *St. Louis Clinical Record*, 1879.]

Statistics of Placenta Previa. Collected from the practice of Physicians in the State of Indiana. By Enoch W. King, M. D., Galena, Ind.

Transactions of the Indiana State Medical Society, 1879. Twenty-ninth annual session. [Indianapolis: Baker & Randolph, 1879.]

The Treatment of Fracture of the Lower End of the Radius. By R. J. Levis, M. D. [From the Transactions of the Medical Society of Pennsylvania.]

Yellow Fever a Nautical Disease; its Origin and Prevention. By John Gamgee, M. D. [New York: D. Appleton & Co., 549 and 551 Broadway, 1879.]

Transactions of the Medical Society of the State of New York for the year 1879. 8vo.; pp. 703. [Syracuse, N. Y.: Truair, Smith & Bruce, printers, 1879.]

Tobacco Poisoning and its Effects upon the Eyesight. By A. W. Calhoun, M. D., Atlanta, Ga. [From Transactions of the Medical Association of Georgia.]

Treatment of Fracture of the Femur. By C. Truesdale, M. D., Rock Island, Ill. From the transactions of the Illinois State Medical Society, Lincoln, May, 1879.

College of Physicians and Surgeons, New York. Medical Department of Columbia College. Seventy-second Annual Catalogue and Announcement. [New York, 1879.]

The Multum in Parvo Reference and Dose Book. By C. Henri Leonard, M. A., M. D. Third edition; revised and enlarged; twenty-third thousand. [Detroit, 1879.]

From the *Boston Medical and Surgical Journal*, March 6th, 1879. Observations on the Mechanical Treatment of Diseases of the Hip-joint. By Charles Fayette Taylor, M. D.

Transactions of the Medical Association of Georgia. Thirtieth Annual Session. Rome, April 16th, 1879; 8vo.; pp. 221. [Atlanta, Ga.: James P. Harrison & Co., printers and binders, 1879.]

Biennial Report of the Missouri Eye and Ear Infirmary, 1304 Chestnut street, St. Louis, from June 26th, 1877, to June 26th, 1879; act of incorporation. [St. Louis: Jno. McKitrick, 1879.]

Transactions of the Thirty-fourth Annual Meeting of the Ohio State Medical Society, held at Dayton, June 3d, 4th and 5th, 1879. 8vo.; pp. 217. [Columbus, O.: Cott & Hann, book printers, 1879.]

On Diseases of the Stomach, the Varieties of Dyspepsia, their Diagnosis and Treatment. By S. O. Harbershon, M. D., London. Third edition; 8vo.; pp. 324. [Philadelphia: Lindsay & Blakiston, 1879.]

The Relations of Legislation to Sanitary Protection. Presidential Address before the Indiana State Medical Society at its twenty-ninth annual session, May 20th, 1879. By Benj. Newland, M. D. [Indianapolis: Baker & Randolph, 1879.]

Proceedings of the Association of Medical Officers of American Medical Institutions for Idiotic and Feeble-Minded Persons. Sessions, Syracuse, June, 8th to 12th, 1878; Lincoln, May 27th to 30th, 1879. [Philadelphia: J. B. Lippincott & Co., 1879.]

Internal Urethrotomy and Lithotripsy. At the same sitting, in a patient 79 years of age, with remarks on rapid lithotripsy and on the evacuation of detritus from the bladder. By J. W. S. Gouley, M. D. Reprinted from the *Medical Record*, October 18, 1879.

The Treatment of Diseases by the Hypodermic Method; a Manual of Hypodermic Medication. By Robert Bartholow, M. A., M. D., LL. D. Third edition; enlarged. [Philadelphia: J. B. Lippincott & Co. [London: 16 Southampton street, Covent Garden, 1879.]

A Clinical Treatise on the Diseases of the Nervous System. By M. Rosenthal, with a preface by Prof. Charcot. Translated from the author's revised and enlarged edition by L. Putzel, M. D. Volume II. [New York: William Wood & Co., 27 Great Jones street, 1879.]

The Heart and its Diseases, with their Treatment, including the Gouty Heart. By J. Milner Fothergill, M. D. Second edition (entirely re-written), with illustrations. [Philadelphia: Lindsay & Blakiston, 1879.] For sale by the Book and News Company, St. Louis. Price, $4.00.

The Grounds of a Homeopath's Faith; three lectures delivered at the request of the Matriculates of the Department of Medicine and Surgery (old school) of the University of Michigan. By Samuel Jones, M. D. [Boericke & Tafel, New York and Philadelphia, 1880.]

The National Dispensatory, containing the Natural History, Chemistry, Pharmacy, Actions and Uses of Medicines, including those recognized in the Pharmacopœias of the United States, Great Britain and Germany, with numerous references to the French Codex. By Alfred Stillé, M. D., LL. D., and John M. Maisch, Phar. D. Second edition; thoroughly revised, with numerous additions, and 239 illustrations. [Philadelphia: Henry C. Lea, 1879.]

AMERICAN HEALTH PRIMERS.

Eyesight and How to Care for It. By George C. Harlan, M. D. [Philadelphia: Lindsay & Blakiston, 1879.] For sale by the Book and News Company, St. Louis. Price, 50c.

The Summer and Its Diseases. By James C. Wilson, M. D. [Philadelphia: Lindsay & Blakiston, 1879.] For sale by the Book and News Company, St. Louis. Price, 50c.

The Student's Guide to the Diseases of Women. By Alfred Lewis Galabin, with 63 illustrations. [Philadelphia: Lindsay & Blakiston, 1879.] For sale by the Book and News Company, St. Louis. Price, $2.00.

Complimentary Dinner given to Prof. S. D. Gross by his Medical Friends in Commemoration of his Fifty-first Year in the Profession, April 10th, 1879. [Philadelphia: Lindsay & Blakiston, 1879.] For sale by the Book and News Company, St. Louis. Price, $1.00.

Memorial Oration in honor of Ephraim McDowell. By Samuel D. Gross, M. D., L.L. D., D. C. L., Oxon. Published by the Society. [Louisville, Kentucky: Printed by John P. Morton & Co. 1879.]

STUDENTS' AID SERIES.

Aids to Anatomy. By George Brown, M. R. C. S., L. S. A., fourth thousand. [New York: G. P. Putnam's Sons, 182 Fifth avenue. 1879.]

Aids to Forensic Medicine and Toxicology. By W. Douglas Hemming, M. R. C. S. [New York: G. P. Putnam's Sons, 1879.]

Aids to Therapeutics and Materia Medica. By C. E. Armand Semple, M. R. C. P., London. [New York: G. P. Putnam's Sons, 1879.]

METEOROLOGICAL OBSERVATIONS.

By A. WISLIZENUS, M. D.

The following observations of daily temperature in St. Louis are made with a MAXIMUM and MINIMUM thermometer (of Green, N. Y.). The daily minimun occurs generally in night, the maximum at p. m. The monthly mean of the daily minima and maxima added and divided by two, gives quite a reliable mean of the monthly temperature.

THERMOMETER, FAHRENHEIT—OCTOBER, 1879.

Day of Month.	Minimum.	Maximum.	Day of Month	Minimum.	Maximum.
1	67.0	88 0	18	49.0	64.5
2	72.5	**90.5**	19	45 5	64.0
3	66.5	77.0	20	44 5	57.0
4	65.0	89.0	21	39.0	67.5
5	69.0	90.5	22	49.5	75.0
6	68.5	85.5	23	40 5	58.0
7	67.5	72.0	24	35 5	54.5
8	63 0	85.5	25	36.0	58.0
9	69.0	88.5	26	38 0	65.5
10	72.5	88.0	27	44.5	69.0
11	70.0	88.0	28	47.5	66.5
12	71.5	89.5	29	52.0	71.5
13	68.0	85.0	30	41.0	53.5
14	67.5	84.0	31	**34.5**	50.0
15	68.0	88.0			
16	67.0	78.5	Means	56.5	74.6
17	61.0	71.0	Monthly Mean	65.5	

Quantity of rainfall, 0.35 inches.

MORTALITY REPORT.---CITY OF ST. LOUIS.

FROM SEPTEMBER 14, 1879, TO OCTOBER 18, 1879, INCLUSIVE.

Septicæmia	8	Cholera Infantum	19	Hydrocephalus &		Apoplexy	14
Measles	1	Inanition, Want of		Tubercular Men-		Cyanosis and At-	
Syphilis	2	Breast Milk, etc.	12	ingitis	4	electasis	
Scarlatina	9	Alcoholism	3	Meningitis and		Premature & Pre-	
Diabetes Melittus.	3	Rheumatism and		Encephalitis	15	ternatural Birth.	20
Erysipelas	2	Gout	1	Other Diseases of		Surgical Operat'ns	3
Diphtheria	25	Cancer	9	the Brain and		Deaths by Suicide	5
Membranous Croup	6	Phthisis Pulmon.	72	Nervous System	10	Deaths by Accid't	16
Whooping Cough.	7	Bronchitis	4	Cirrhosis of Liver		Congen Detor'ty.	1
Atheromatosis Ater		Senility	10	and Hepatitis	17	Total Deaths from	
Leucocythæmia	1	Pneumonia	11	Enteritis, Gastro-		all Causes	522
Typhoid Fever	15	Heart Diseases	11	Enteritis, Perito-		Total Zymotic Dis-	
Cerebro Spinal Fe.	3	Other Diseases of		nitis, and Gas-		eases	164
Remittent, Inter-		Respir'y Organs	7	tritis	19	Total Constitution-	
mittent, Typho-		Entro-Colitis	0	Bright's Disease		al Diseases	129
Malarial, Con-		Marasmus—Tabes		and Nephritis		Total Local Dis-	
gestive & Simple		Mesenterica and		Other Diseases of		eases	173
Contin'd Fevers,	24	Scrofula	40	Urinary Organs.	3	Total Develop'tal	
Puerperal Disea's.	3	Convulsions	56	Thrombosis	1	Diseases	31
Diarrhœal "	27	Aneurism		Ovarian Tumor	1	Deaths by Viol'ce	25

Deaths by Homicide..... 1

CHAS. W. FRANCIS, *Health Commissioner.*

THE

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Original Contributions.

ARTICLE XX.

THE FUNCTIONS AND DISORDERS OF THE LIVER AND THEIR MANAGEMENT IN ACCORDANCE WITH THE RESULTS OF MODERN DISCOVERY. Being the new chapter about to appear in the forthcoming second edition of "Loss of Weight, Blood-Spitting and Lung Disease." By HORACE DOBELL, M. D., of London, Consulting Physician, late Senior Physician to the Royal Hospital for Diseases of the Chest, London.

Opinions of the Ancients Confirmed by Modern Discoverers—References to the Liver in other parts of this Work—Importance of the Liver in Loss of Weight, Blood-Spitting and Lung Disease considered under Six Heads: 1. Digestion and Assimilation of Hydrocarbons—2. Of Carbohydrates—3. Of Albuminoids—4. Disintegration of Nitrogenous Matter and Evolution of Heat—5. Retrograde Congestion—6. Fatty Enlargement.—Bird's Eye View of the Organism—The Venous System separated from the Arterial by the Lungs—The Portal System separated from the Lungs by the Liver—The Lacteal and Lymphatic Systems shut off from the Liver by the Thoracic Duct—The Systemic Venous System shut off from the Liver by the Vena Cava—Functions of the Liver—Interceptor of Saccharine and Amylaceous Matter—Interceptor of Oil—Disintegrator of Nitrogenous Matter and of Blood-Discs

and Center of Animal Heat--Constructor of Bile, Bernardin (Glycogen or Amyloid Matter) and Urea—Facilitator of Fat Absorption by Animal Membranes—Antiseptic and Aperient Properties of Bile.—Intermediate Osmotic Circulation and Absorption of Bile.—Power of the Liver to bear Overtax of its Functions without Disease.—Diabetes.—Explanation of Fatty Liver in Consumption.—Proper Treatment of the Functions and Disorders of the Liver by Diet, Hygiene and Medicine.—The Liver a powerful Ally or Dangerous Enemy in our War with Loss of Weight, Blood-Spitting and Lung Disease.

The practical sagacity of the ancient physicians and the common sense of humanity for ages kept up a widespread belief that the most conspicuous viscus in the body must play a somewhat proportionately conspicuous part in the organism.

Hence an endless variety of ills were attributed to derangements and diseases of the liver.

For many years these ideas were smiled at by those who thought themselves so much more enlightened than their predecessors as to have learnt that the liver was made for nothing but the secretion of bile, and that bile was nothing but a waste product of the body.

Recent scientific discovery, however, has turned the smile against the skeptics, amply confirming the impressions of our ancestors, and placing the liver on the very pinnacle of clinical, physiological and pathological importance.[1]

In reading over my own book in its first edition, I am impressed with the feeling that it does not represent to the full extent the importance which those who are familiar with my daily practice well know that I attach to the liver, in connection with loss of weight, blood-spitting and lung disease. I have therefore added this supplementary chapter to supply the deficiency.

At pp. 215, 217, 249, I have spoken of the importance of attending to the action of the liver, and at p. 152 I have referred to some laborious investigations which I made so long ago as 1853 with reference to fatty liver in consumption. But in all

1. Among modern laborers in this field the following may be specially mentioned: Kiernan, Budd, Rokitanski, Frerichs (whose work has been popularized in English by the valuable translations and *rechauffées* of Murchison), Bernard (whose discoveries have been subjected to important correction by Pavy). Wickham Legg, Parkes, Habershon, Harley, Rolleston, Rutherford, Warburton Begbie, Gilbert, Morehead, Waring, Wilks, Gamgee, Brunton, Grünewald, Krueger, Schiff, Röhrig, Masse, Bocker, Radziejewski, Kuhne, Recklinghausen, Klein, Staedeller, Neukomn, Eulenberg, Brown-Séquard, Rouis.

these places the liver is only referred to in its subsidiary connection with the general argument regarding the action of the pancreas. In this chapter I shall reverse the order and give precedence to the liver.

The importance of the liver in connection with our present subject may be considered under six principal headings:

1. Its connection with digestion and assimilation of the fat elements of food (hydro-carbons).

2. Its connection with the digestion and assimilation of the saccharine and amylaceous elements of food (carbo-hydrates).

3. Its connection with the digestion and assimilation of the nitrogenous elements of food (albuminoids).

4. Its connection with the disintegration of nitrogenous matter.

5. Its liability to congestion when the pulmonary circulation is obstructed in front, with consequent disturbance of its functions; this retrograde congestion and disturbance of functions extending in due course to all the organs which contribute to the portal circulation.

6. The apparently anomalous and puzzling fact that fatty enlargement of the liver is especially apt to occur when all the rest of the organism is wasted by consumption.

This remarkable combination of circumstances seems to invest the liver with so much interest in relation to loss of weight, blood-spitting and lung disease, that we are astonished to find how little is said about it in any of the existing works on consumption.

If we take a bird's-eye view of the organism—with its general plan of a venous system separated inviolably from an arterial system by the lungs, and a great food-supplying apparatus for the generation of blood and tissues, and for the evolution of heat and other modes of motion—the liver strikingly attracts our notice, as a huge machine placed as peremptorily between the food supply and the pulmonary circulation as are the lungs between the veins and the arteries, intercepting every particle of new food that can be absorbed by veins. So jealously is this shut off from the lungs that the blood of the hepatic artery, after ministering to the nutrition of the liver itself, and even that of the vaso-vasorum of the hepatic veins, is returned to the portal vein before it is allowed to reach the lungs.

We cannot for a moment doubt, when we regard this impera-

tive arrangement for interception, that it has some most vital purpose.

The next thing that most forcibly strikes us in this bird's-eye view is a similarly peremptory arrangement by which everything absorbable by lacteals and lymphatics is scrupulously kept out of the way of the liver, and, after passing through a system of glands, is conveyed by the thoracic duct directly to the lungs.

And again we are struck by the definite arrangement by which all the venous blood of the body, other than that charged with new food, is, like the contents of the thoracic duct, kept out of reach of the liver and conveyed directly to the lungs.

We find that, by these mechanical arrangements, all worn-out tissues, all fats not absorbed by the portal system of veins, all the products of interstitial nutrition, are submitted directly to the pulmonary circulation, but that all the other elements of nutrition *must be submitted to the operations of the liver* before they are fit for use in the organism.

What, then, are the effects of these important operations?

1. First and foremost in every way is the conversion of the carbo-hydrates of the food, and probably some of the albuminoids, into a material called Bernardin,[2] amyloid matter, or glycogen. It matters not by which of these names it is called, but I prefer the first, so that it is clearly understood—that from the time the food is converted into this body it becomes utilizable as a source of force and nutrition, and that—so long as the functions of the liver are normal, and the quantity of carbo-hydrate food introduced is not in excess of the maximum capacity of these functions—only a trace of sugar *per se* escapes conversion into Bernardin, and is allowed to reach the pu monary blood, any excess of this being rapidly excreted by the kidneys, constituting diabetes.

2. The second effect is the interception of so much of the fats as are absorbed by the portal system of veins (almost entirely oleine) for the manufacture of bile, only the surplus over and above what is employed for this purpose being allowed to reach the lungs by the hepatic veins. All the solid fats, and the bulk of all fats, are saved from the liver—being emulsionized by the pancreatic secretion, and conveyed to the lungs by the lacteal route.

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2. After Prof. Bernard, the discoverer of this material [at the suggestion of Dr. Pavy.]

3. The albuminated materials of food absorbable by the portal system of veins are disintegrated in the liver, leading to the formation of urea and other nitrogenous products, afterwards excreted by the kidneys. In the performance of this and other chemical processes, the liver becomes a great center of animal heat, the temperature of the liver reaching 104° to 106° F., when all the rest of the body is at 98° and 99°. It is important to remember that the blood of the portal vein when it enters the liver contains the blood from the spleen, and that probably in connection with this, is the fact that the worn-out red blood discs are cast into the liver—forming part of that copious supply of nitrogenous matter poured into the liver, the disintegration of which has already been referred to as a source of animal heat, and in the course of which blood pigment is probably converted into bile pigment, and bile pigment into urinary pigment. It is not certain, however, that bile pigment and the biliary acids are not secreted from the blood of the hepatic artery. But, as I have already mentioned, the venous return of the hepatic artery is into the portal circulation.

4. We come next to the special secretion of the liver, that rich, complex, abundant and important fluid, *the bile*, poured out at the rate of about two pints every twenty-four hours, not less than thirty-nine fortieths of which is returned to the blood during its passage through the biliary and intestinal tract—in the course of that great and important osmotic circulation constantly going on between the fluid contents of the bowel and the blood. The amount of fluid poured into the intestines and reabsorbed in twenty-four hours, says Prof. Parkes, "is almost incredible, and constitutes of itself a secondary or intermediate circulation never dreamed of by Harvey. The amount of gastric juice alone passing into the stomach and then reabsorbed amounted, in a case lately examined, * * * to nearly twenty-three imperial pints (if we put it at twelve we shall certainly be within the mark). The pancreas * * * furnishes twelve pints and a half in twenty-four hours, while the salivary glands pour out at least three pints * * * the amount of the bile is probably over two pints. * * * The amount given out by the intestinal mucous membrane cannot be guessed at, but must be enormous. Altogether, the quantity of fluid effused into the alimentary canal in twenty-four hours amounts to much more than the whole amount of blood in the body. * * * The effect of this con-

tinual outflowing is supposed to be to aid metamorphosis; the same substance, more or less changed, seems to be thrown out and reabsorbed until it is either adapted for the repair of tissue or has become effete."

As regards that small proportion of the bile (not more than one-fortieth of the whole) which is excreted through the intestines, it acts as a potent antiseptic upon the contents of the bowel, stimulates peristalic action, and in this way, as well as by giving a proper consistence to the fæces, assists in their regular discharge, and it rids the system of those waste products of blood and tissue which can no longer yield up nutriment or force to the organism. It is a striking fact that all the digestive fluids, from the saliva downwards, promote decomposition until we come to the bile, which, for the first time, reverses the action, and interposes an antiseptic, thus maintaining the *status quo* of the proceeds of digestion until they are absorbed or cast off as waste, and staying the evolution of gases in the passage of this waste out of the body.

In diseases attended with copious expectoration a special importance attaches to the antiseptic properties of bile; for it is inevitable that a considerable portion, in some cases the whole, of the matter intended for expectoration will pass from the respiratory down the alimentary tract, where it will decompose and act as a septic poison unless this is prevented by some antiseptic agent. I have laid so much stress in other parts of this work upon the vital importance of antiseptic treatment in tuberculous blood-poisoning or tuberculæmia, that I need not do more in this place than call attention to this as another reason for promoting a proper flow of normal bile.

It is—that large proportion of the bile (about thirty-nine fortieths) which is reabsorbed—with which we are more especially concerned in considering the question of loss of weight. We cannot fail to be struck with the consideration of how largely the nutrition of the body must be interfered with if, through faulty action of the liver, this enormous daily contribution to the new formative materials of the body is either cut off or ill elaborated, or if, after being duly elaborated and poured into the intestines, it is cast out of the body instead of being absorbed. (See p. 152.)

But in addition to the direct supply of nutriment by the action of the liver, the bile has an indirect influence on nutrition equally important. Not only is its passage into the intestines in some

way essential to that formation of Bernardin (amyloid substance or glycogen) out of the carbo-hydrates, about which I have already spoken, and instrumental in facilitating the digestion of the albuminoid constituents of food; but experiments have shown that the presence of a weak solution of soda or potass in the pores of an animal membrane materially assists the passage through it of emulsionized oil and fat; and we find in the alkaline bile diluted with the other digestive fluids, exactly what is wanted to saturate in this manner the lining membrane of the alimentary canal, and thus to facilitate the important process of absorption of fat. There can be no longer any doubt that one of the great purposes of the liver is to assist by these means in the supply of fats to the blood by the lacteal route.

It will be recollected that in the course of this work I have again and again pointed out the importance, in all cases of wasting, and especially in tuberculosis, of supplying an abundance of carbo-hydrates in the diet, partly as a means of contributing to the formation of fat from this source, but still more with a view to supplying materials for the evolution of animal heat and other modes of motion in the form of carbo-hydrates, and thus reserving all the hydro-carbons possible for histogenesis and other purposes for which fat, and fat only, can suffice. (See pp. 154, 158, 217, 222, 223, 229). And now that I have shown that the liver is the organ principally concerned in converting these carbo-hydrates into Bernardin, and thus fitting them for utilization in the organism, we shall again be impressed with the necessity of securing a proper performance of this essential function.

We come now to consider more minutely the relation of the liver to the fat absorbed from the food into the *portal venous system*, and then its relation to fat absorbed during interstitial nutrition into the *systemic venous system* so intimately connected with those wasting processes attended with loss of weight. We shall then be in a position to understand "the apparently anomalous and puzzling fact that fatty enlargement of the liver is especially apt to occur when all the rest of the organism is wasted by consumption" (p. 517, par. 7).

We have seen that the liver must be regarded as a great interceptor of sugar and of oil from the lungs, and that when it is in the full possession of its functions, only a trace of sugar *per se* or of oil *per se* reaches the hepatic vein unless it is introduced into the portal system in greater quantity or at a greater rate

than the maximum normal functions of the liver can manage to deal with; that thus the presence of either sugar or oil (*per se*) in any quantity in the hepatic vein must be regarded in the *light of an overflow*, indicating that the functions of the liver are either defective or overtaxed.

Now, with regard to overtaxing the liver with oil, which is the part of the subject which concerns us at present, experiment and investigation show that a large margin for variation has been allowed within the bounds of health. No harm to the system results from an overflow of oil from the liver into the pulmonary blood, for it only augments that much larger quantity purposely conducted there directly by the lacteal route, although there is this important difference between the fat overflowing from the liver and that conducted by the thoracic duct, that *the former has not been emulsified by the pancreatic fluid or elaborated by the mesenteric glands.* Still it does not appear to do any harm that a certain amount of oil should in this way overflow from the liver into the lungs, but on the contrary, as I have pointed out more than once in this book, and especially at p. 221, it is in this way that under the circumstances of impending danger, when tuberculosis is imminent through the stoppage of fat by the lacteal route, "in this emergency, in the hurry of this moment *cod liver oil* is such a Godsend to the patient. It is the kind of fat that can be hurried most rapidly into the pulmonary circulation; it is the fluid oleinous kind of fat that can pass by the portal instead of by the lacteal route." Yet what we have to consider in this place is that it does so in the character of an overflow at the expense of overtaxed functions.

As a large margin is allowed within the bounds of health for this overflow of unpancreatized oil into the lungs, so also is there a large margin allowed within the bounds of health for the *oil intercepting* function of the liver. Although it is most probable that, under normal conditions, the only object with which fat enters the portal circulation is as a contribution to the biliary secretion, yet it also appears probable that provision has been made within the bounds of health for enabling the liver to become a channel, in the manner I have indicated, by which oil may be temporarily supplied to the pulmonary blood, and to bear this overtax and overflow without permanent disease being produced in the organ. As a matter of fact, it is found that, under temporary overtax, a fatty condition of liver may occur, *such as*

morbid anatomists would recognize as disease, and yet the organ resume a perfectly healthy condition when relieved of this overtax of its functions.

But this power of restoration depends upon the duration and amount of the overtax, and is lost in proportion as the morbid condition is prolonged or excessive. It is this combination of circumstances which has been so cruelly and loathsomely taken advantage of for the artificial production of fatty liver in the Strasburg geese for the sake of manufacturing "pâté de foie gras."

In the normal state the oil which enters the liver with the portal blood is deposited in the hepatic cells, whence it is absorbed for the formation of bile; but in the abnormal state, produced by prolonged or excessive overtax, the accumulation of oil in the cells becomes so great that it compresses or excludes their other contents, thus stopping their secreting function, obstructing the portal circulation, and leading to the well-known consequence of portal congestion—loss of appetite, depraved or arrested digestion and assimilation, gastro-intestinal catarrh, hemorrhoidal affections, etc.

It is in this way that troubles arise from the incautious use of cod liver oil, especially when lacteal absorption is at a standstill. I pointed this out at p. 223. When speaking of the value of cod liver oil, I said, "As a temporary substitute for natural fats introduced by the natural route, it answers admirably, but sooner or later, in some cases very soon indeed, the portal system becomes choked, aud refuses to absorb more oil, the oil disagrees with the stomach, it rises, it spoils the appetite, and thus not only ceases to do good, but does positive harm by preventing the patient from taking as much food as the stomach might otherwise call for and digest;" and at p. 217 I said, "The stomach has often suffered by an attempt to supplement the deficiencies of the small intestines, by digesting an undue amount of albuminoid material; and, by the forced absorption of fluid fats, the portal system has been overloaded and the condition of the liver deranged. Hence it commonly happens that, when cases of early consumption first come under our treatment, all this has to be set right before proper digestion and absorption would be possible, even if the pancreas could be made to resume its functions at once." And I added at p. 249, "Our treatment of consumption only becomes curative in proportion as it includes the means

for restoring the healthy functions of the stomach, liver and pancreas.

We cannot doubt then, after what we have seen, that although the liver route may be resorted to in an emergency for the supply of fat to the pulmonary blood *it cannot be permanently depended upon*, and that in proportion as we force on this overtax of the organ, we entail secondary abnormal conditions which more than counterbalance any good we can obtain.

But still we have not fully demonstrated or explained how it is that fatty liver so often progresses *pari passu* with the wasting of the rest of the body in consumption.

This question has long been a stumbling block both to physiologists and physicians, but I think that now we shall not find it difficult to answer. It, of course, involves a question which physiologists have not completely settled, viz., the mode and course by which the tissue fat is removed during the process of wasting—whether it is taken up by the lymphatics or by the veins. But there is no longer much room for doubt that the systemic veins are the principal channels by which fat is conveyed from the adipose tissue cells to the blood, while the lymphatics take up the worn-out tissue of the cells themselves. If the fat were all taken up by the lymphatics it would be conveyed directly to the lymphatic glands and thence to the lungs, and none of it could be waylaid by the liver. That which is absorbed by the blood-vessels is conveyed by the vena cava to the lungs, and thus the liver would still be eluded were it not that, when the supply of fat to the pulmonary blood by the natural lacteal route is cut off or materially diminished, the call upon the adipose tissues for fat is so urgent that the blood becomes surcharged with absorbed tissue fat so long as any can be obtained, and this fat, not having undergone pancreatization or elaboration in the glands, is utilized with difficulty, and therefore passes and repasses through the organism in the general circulation before it is consumed. In this way the arterial blood of the whole system, and therefore that of all the chylopoietic organs, is surcharged with ill-elaborated fats, and as the venous return of all these organs is into the portal system, it is evident that in this way a constant overloading of fat is kept up in the liver cells while all the rest of the organism is losing it by interstitial absorption.

If this were the beginning of the series of morbid phenomena

in consumption, we might expect, from what we have learnt of the elastic character of the function of the liver as an interceptor of fat, that it might simply become a channel for the passage of absorbed fat to the lungs, as it is capable of becoming for a temporary purpose, when overtaxed with oil from the food (see page 523, par. 1); but we must remember that before emaciation begins the liver functions have been long taxed far beyond their healthy margin; the liver cells have already overflowed with oil and become choked with it, the portal circulation is blocked up, and the secretion of bile perverted or arrested.

But, still more, as the stage of emaciation arrives, in the majority of cases, the digestive organs have been overflooded with fatty and amylaceous foods in attempts to keep up nutrition, by which all the functions of the liver have been overstrained and spoilt; the powers of locomotion have become limited by illness, and, in the necessary protection against colds, the patient has been shut in warm, close rooms, and thus the difficulty of maintaining healthy digestion and assimilation, especially healthy liver action, have been still further complicated. Hence we cannot be surprised when Dr. Warburton Begbie says, as the result of his large experience, "the most fatty livers as well as the largest organs which have fallen under my observation have been in cases of chronic phthisis attended by extreme emaciation, in which cod liver oil, either in large or moderate amount, had been daily consumed for a period of many months." And when we consider that, in the words of Rokitansky, "fatty liver is an essential constituent or pathognomonic combination of the tubercular dyscrasia, inasmuch as *it allies itself with tubercular affections of every kind*, with tubercle of the intestinal mucous membrane, of the bronchial glands, the serous membranes, the bones," we shall see that attempts so often made to explain the connection between fatty liver and phthisis, by referring it to the effect of interrupted oxygenation through the destruction of lung substance, are completely beside the question, even if they were not, *as they are*, easily controverted on other grounds. In fact, we are brought back to the important conclusion so often insisted upon in this work, and for which these phenomena add an argument, not previously made use of, viz., that the supply of fat by its natural lacteal route is cut off as the starting point

in the whole series of morbid changes in *constitutional* consumption.*

The fifth item in my list of circumstances which give importance to the liver in connection with loss of weight and lung disease (p. 517, par. 6) is "its liability to congestion when the pulmonary circulation is obstructed in front, with consequent disturbance of its functions; this retrograde congestion and disturbance of function extending in due course to all the organs which contribute to the portal circulation."

This congestion—which is only a part of that wider retrograde venous congestion which, through obstructing the vena cava, extends to the whole venous system—is too well known in connection with heart and lung diseases generally to need that I should do more than refer to it here, as a condition which creeps on coincidently with the advancing destruction of lung substance and consequent impediment to the onward current of blood from the right to the left heart, through the pulmonary circulation, leading to certain forms of blood-spitting and encroaching by slow but certain steps upon the already damaged capability of the digestive and assimilative organs to continue the functions essential to life.

Having now fully reviewed the position of the liver as a contingent in the general array of forces with which we have to contend in our battle with "loss of weight, blood-spitting and lung disease," let us consider what special weapons, or special applications of weapons, are necessary and obtainable for this part of our fight, and with what special aims we are to direct our attack with most promise of success.

If we restrict our view of the liver to its functions as an interceptor of fat for the secretion of bile (see p. 519, par. 1, p. 523, par. 1), and to its capability of permitting an overflow of oil into the pulmonary circulation, when this function is arrested or overtaxed, it may not unreasonably occur to us that, under circumstances in which fat is cut off from the organism at the lacteal route, it might be wise to encourage rather than to prevent an arrest or an overtax of the fat-destroying function of the liver, and so to allow the fat to reach the pulmonary blood by the he-

* It must be always borne in mind that this applies to constitutional consumption.

patic veins. And I have already pointed out (p. 523, par. 1) that, in a certain limited sense, this is a wise course to pursue.

But when we take a general instead of a restricted view of the subject, we find that the continuance of overtax or arrest of the oil-intercepting function of the liver, entails a perversion or arrest of all those other functions which we have found to be so essential to healthy nutrition, and it becomes clear that, even if we could secure a continuance of the passage of the fat to the lungs through the hepatic route, the gain would be more than counterbalanced by what is lost in the arrest of the other functions of the organ. But we have seen that arrest or overtax of the fat-intercepting functions will only for a limited time secure the overflow of oil to the lungs, and that, sooner or later, in most cases very soon, this perversion of function induces a general deadlock.

There can be no doubt, therefore, that we are theoretically right in following the course which practical experience has most unquestionably dictated and justified, viz., *to maintain by every means in our power the full integrity of all the functions of the liver.*

With this end in view we must cautiously avoid overtaxing the liver beyond a certain point, by carefully arranging the distribution of hydro-carbons, carbo-hydrates and albuminoids in the diet; and, so long as normal pancreatic action is defective, all food should be submitted to artificial pancreatization by the administration of pancreatine, which emulsionizes the fats, and thus assists their passage by the lacteal route instead of through the liver, and assists the conversion of the carbo-hydrates into Bernardin (see p. 518, par. 5). These objects may be still further promoted by submitting some portion of the food to pancreatization in the form of pancreatic emulsion before it is taken into the stomach, and thus making sure that it is fitted at once for lacteal absorbtion; and, by the administration of peptodyn (pepsine, pancreatine and diastase), and of malt extracts, we may still further assist the liver in the conversion of the carbo-hydrates into Bernardin.

This treatment has the additional advantage that the fats which enter the portal system, as well as those absorbed by the lacteals, will have been submitted to the influence of the pancreatic juice.

Having thus eased and saved the defective functions of the liver by these dietetic manœuvers, we must attempt to stimulate the secreting powers when they flag, and to relieve that hepatic

congestion which hampers the proper action of the digestive organs. This is best done, without weakening the patient, by giving small repeated doses of podophyllin or of euonymin, and we must recollect that all our remedies should have a restorative rather than an exhaustive character.

The best way by far of administering podophyllin is to dissolve it in spirits of wine in the proportion of gr. j to the ounce, and combine it with essence of ginger in the proportion of ʒjss to an ounce; a teaspoonful of this given in a wineglassful of water every night, or every second or third night, will secure all the advantages of podophyllin without any chance of incurring those disadvantages which so often result when it is given in pills (see my note in the *British Medical Journal*, May 24th, 1879). Euonymin, which is a weak form of podophyllin, may be given in the same way, but the properties and strength of the drug *as at present obtained* are too variable to be relied upon.

One of our most valuable liver medicines is chloride of ammonium. It has proved invaluable in Indian practice in all those cases for which formerly large doses of mercury were thought essential. It is absolutely harmless, and in chest diseases has the additional advantage of being a valuable sedative to catarrhal mucous membranes at the same time that it relieves their congestion and facilitates expectoration. (See my work on Winter Cough, 3d edition, p. 193). Its action on the liver is especially indicated when congestion is the prominent condition, and it should be given in doses of from 5 to 20 grains, after food, combined either with acids or alkalies, according to the special indications of the case in this respect. Benzoate of soda is another hepatic stimulant of considerable value, and ipecacuanha has long been known to be another.

I have pointed out the important action of the liver on nitrogenous matter (see p. 519, par. 2), by which urea is formed and animal heat evolved; and as it is known that one influence of the introduction of chlorides into the organism is to promote the disintegration of albuminoids and materially to increase the excretion of urea by the kidneys, and as we know that the presence of an excess of uric acid in the urine is a sign of a defect in the oxygenation of the waste nitrogenous materials which ought to be disintegrated by the liver; when we find the urine overcharged with uric acid, our first care should be to restore or to

increase the disintegrating functions of the liver, and thus to remedy the defect at the fountain head.

In this way gouty and rheumatic affections, and their attendant dyspepsia, may be far more permanently treated by the administration of podophyllin, chloride of ammonium, benzonate of soda, ipecacuanha, and the like, than by merely resorting to antidotes for the over-acid condition; *but it is usually advisable to do both.*

I may mention here the powerful influence which I have long found to be possessed by chlorate of potass in removing from the skin those brown and brownish-green discolorations so characteristic of torpid cachectic states, and which are due to the presence in the blood not of bile, but of those waste materials which should be taken from the blood for the formation of biliary and urinary pigments—probably, at least in part, the debris of worn-out blood corpuscles. When these deposits are present in the skin, the combination of chlorate of potass with the chloride of ammonium has a remarkably satisfactory effect.

It sometimes happens that neither podophyllin nor chloride of ammonium will act with sufficient promptitude for an emergency, and in this case a dose of some mercurial should be given at once, after which it will not be necessary to repeat it if the other remedies are judiciously given and long enough continued.

But in advising means to be used to stimulate the secreting functions of the liver in the loss of weight and lung disease, I must emphatically point out that great caution is needed not to overdo this treatment—not to hurry on these functions beyond a normal rate, except for a very limited time—for it has been learned by experiment that over-excitement of the hepatic circulation soon leads to paralysis of function instead of the reverse, sugar being allowed to pass unchanged into the blood in abnormal quantities until temporary or even permanent diabetes results. (See p. 516, par. 6). The connection between tuberculosis and diabetes has been already referred to more than once in this work in other lights, and must not be forgotten.*

Equal caution is necessary that, in our attempts to rëestablish normal liver action, we do not irritate the intestinal mucous mem-

* Some remarkable and permanent recoveries from diabetes have occurred to me under treatment dictated by the facts now in our possession concerning the functions of the liver and pancreas.

brane, and thus, by hurrying the secretions too rapidly through the alimentary canal, stop that great osmotic circulation between the intestinal contents and the blood, the great importance of which in nutrition I have already impressed.

The effects of such arrested osmosis into the blood on loss of weight are forcibly illustrated by the rapid and disastrous descent which diarrhœa always produces in a tuberculous patient. It ought always to be peremptorily stopped. This may generally be done by giving 20 grains of compound aromatic chalk powder in a wineglassful of brandy and water after each motion; after which an excellent and agreeable way of restoring the tone of the intestines is to administer the "St. Raphael Tannin Wine" as a diet drink for a few days.

At p. 521, par. 1 I have called attention to the important influence which the healthy bile exerts upon the lacteal absorption of fats, already emulsionized by the panereatic juice, in its character as an alkaline fluid saturating the membranous lining of the alimentary tract. This must never be lost sight of in our treatment of derangements of the liver in wasting diseases.

If we have reason to believe that the quantity of alkali thrown into the bowel by the liver is deficient, either from the over acidity of other secretions or through deficient or defective secretion of bile, we must of course endeavor to rectify this defect by restoring the normal action of the liver; but while waiting for this, or in addition to this, we must at once supply the deficient alkali artificially. This will best be done by giving Vals water of the spring Precieuse as a drink with meals, combined or not with wine or spirits, according to circumstances, and by a powder of soda, calumba and ginger rapidly mixed in water and taken a quarter of an hour before food. Acid dyspepsia is one of the commonest forms of deranged digestion in consumption, and immense advantage is obtained by correcting this condition. But in doing this care is necessary to combine the alkalies with stomachic tonics so as to restore and maintain the tone of the stomach. It will be found that this is much more satisfactorily done by giving the stomachic tonic in a powder as just directed than in that of fusion or tincture, and I believe this is explained by the simple fact that when given in fusion or tincture, it is absorbed into the blood at once, and its local effect on the stomach soon lost; whereas, when given in a powder just mixed in water the virtues of the drug are gradually given out while in the di-

gestive organs, and its beneficial effect is thus prolonged. However simple such distinctions may appear, it is by attention to them that we secure successful treatment.

The same means of treatment which promote the normal action of the liver in the disintegration of albuminoids and the assimilations of fats, prove equally advantageous in promoting its all-important rôle as the only medium through which the carbo-hydrate constituents of food are made available in the system as sources of heat and mechanical force. (See p. 518, par. 5). We need not, therefore, recapitulate them, but the fact cannot be too forcibly impressed.

If, as there is reason at present to believe, worn-out red blood corpuscles are disintegrated in the liver, it may partly explain the fact that *iron*, which is known to increase the number of red corpuscles in the blood, and therefore the amount of debris for disintegration never agrees when liver action is perverted or arrested. Iron, therefore, is to be avoided in many cases of consumption on these grounds, as well as for these much more vital reasons which I have already pointed out, and which can never be too often repeated.

The disastrous effects of the ill-judged administration of iron in consumption are, I regret to say, constantly coming before me in practice.

We cannot review what has been said of the relations between the portal circulation and the pulmonary circulation, and beween the systemic blood and the fluids poured out by the liver and other digestive organs in the great osmotic circulation described at p. 520, par. 1, without recognizing the fact that pulmonary hyperæmia and congestion may be most signally controlled by putting a drain upon the biliary and other intestinal fluids. This is most effectually done, as I have pointed out when speaking of the treatment of hæmoptysis, by saline aperients. And these may be well combined, when necessary, with the special hepatic stimulauts already mentioned. But while calling attention to the value of this treatment, I cannot too strongly impress the importance of remembering how *exceedingly powerful are these means of depletion*—second only to blood-letting itself—and hence the necessity for corresponding caution in their employmeut.

It is evident from all that has been here said of the functions of the liver and of its disorders that the greatest care and consideration are necessary to see that when good is resulting from a certain

amount of compensatory overtax of normal liver functions we are not in too great hurry to interfere; that when these functions are arrested or perverted we do not drive them to excess in our endeavors to reinstate them; and that when we have been called upon to make use of the remedial effects of their temporary overstimulation we cautiously and promptly restore them to their normal proportions.

For the purpose of stopping liver action, when this is urgently required, we have a most potent armament in opium, so potent that its power to do harm in this direction should always make us avoid its use in loss of weight and lung disease, except when *its power of stopping the action of the liver* is either peremptorily called for or at the least is certain not to do more harm than good.

On the other hand, if the liver obstinately refuses to answer to our remedies for increasing its functions, or if the passage of its secretions is shut off from the intestinal canal by obstructive diseases, we can do something to supply its place by passing into the bowel fresh ox-gall sufficiently diluted to promote its osmosis into the blood. A quarter of a pint of fresh ox-gall diluted with a pint of water at a sufficient temperature to raise the mixture to 90° F. should be slowly passed into the bowel every day through a long tube connected with a douche reservoir, so that it may enter only by hydrostatic pressure, and may be retained as long as possible in the intestine. To secure this, the patient should be kept recumbent on the back, with the hips raised above the level of the chest. Pepsine, pancreatine and diastase (peptodyn) should be given with the food, to assist the several digestive processes as before directed.

We have then ample means at our command for increasing hepatic function, for assisting hepatic function, for supplementing hepatic function, for utilizing excessive, or over-taxed, or perverted hepatic function, and for the treatment of disease; and in proportion as we employ these means with skill and judgment we may find in the liver a most powerful ally or dangerous enemy in our wars with Loss of Weight, Blood-spitting and Lung Disease.*

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* Professor Rutherford (*Brit. Med. Journ.*) has made elaborate reports of a vast number of experiments to determine the exact action of so-called cholagogues on the billary secretion of the dog. (It must always be remembered, in reading his results, that the ways of man are not exactly those of the dog! see p. 67.) They may be thus epitomized: 1. He has

found that in a curarized dog which has fasted eighteen hours, the secretion of bile is tolerably uniform during the first four or five hours after the commencement of the experiment, but falls slightly as a longer period elapses. Its composition is unaltered. 2. Croton oil is an hepatic stimulant of very feeble power. 3. Podophyllin is a very powerful stimulant of the liver. During the increasing secretion of bile the percentage amount of the special bile solids is not diminished. If the dose be too large the secretion of the bile is not increased. It is a powerful intestinal irritant. 4. Aloes is a powerful hepatic stimulant. It renders the bile more watery, but at the same time increases the excretion of biliary matter by the liver. 5. Rhubarb is a certain though not a powerful hepatic stimulant. The bile secreted under its influence has the normal composition. 6. Senna is a hepatic stimulant of very feeble power. It renders the bile more watery. 7. Colchicum increases to a considerable extent the amount of biliary matter secreted by the liver, although it renders the bile more watery. 8. Taraxacum is a very feeble hepatic stimulant. 9. Scammony is a feeble hepatic stimulant. 10. Gamboge is an intestinal but not an hepatic stimulant. 11. Castor oil stimulates the intestinal glands, but not the liver. 12. Calomel has no power to increase the biliary secretion, but stimulates the intestinal glands. 13. Euonymin is a powerful hepatic stimulant. It is not nearly so powerful an irritant of the intestine as podophyllin. 14. Sanguinarin is a powerful hepatic stimulant. It also stimulates the intestines, but not nearly so powerfully as podophyllin. 15. Iridin is a powerful hepatic stimulant. It stimulates the intestines less powerfully than podophyllin. 16. Leptandrin is an hepatic stimulant of moderate power. It is also a feeble intestinal stimulant. 17. Ipecacuanha is a powerful hepatic stimulant. It increases slightly the secretion of intestinal mucus; but has no other apparent stimulant effect on the intestine. The bile secreted under the influence of ipecacuanha has the normal composition. 18. Colycinth is a powerful hepatic as well as intestinal stimulant. It renders bile more watery, but increases the secretion of biliary matter. 19. Jalap is a powerful hepatic as well as intestinal stimulant. 20. Sodium-sulphate is an hepatic stimulant of considerable power. It also stimulates the intestinal glands. 21. Magnesium sulphate is an intestinal but not an hepatic stimulant. 22. Potassium sulphate is an hepatic and intestinal stimulant of considerable power. Its action on the liver is, however, uncertain, probably owing to its sparing solubility. 23. Sodium phosphate is a powerful hepatic and a moderately powerful intestinal stimulant. 24. Rochelle salt is a feeble hepatic but a powerful intestinal stimulant. 25. Ammonium chloride stimulates the intestinal glands, but not the liver. 26. Dilute nitro-hydrochloric acid is a hepatic stimulant of considerable power. 27. Corrosive sublimate is a powerful hepatic stimulant, while it is a feeble intestinal stimulant. 28. Calabar bean stimulates the liver, but powerfully only in large doses. 29. Atropia-sulphate antagonizes the effect of calabar bean on the liver, and thereby reduces the hyper-secretion of bile produced by that substance. It does not, however, arrest the secretion of bile, and when given alone does not notably affect it. 30. Menispermin does not stimulate the liver. It slightly stimulates the intestinal glands. 31. Baptistin is an hepatic and also intestinal stimulant of consid-

erable power. 32. Photolaccin is an hepatic stimulant of considerable power. It also slightly stimulates the intestinal glands. 33. Acetate of lead in large doses somewhat diminishes the secretion of bile, probably by a direct action on the liver. 34. Ammonium-phosphate is a moderately powerful stimulant of the liver. It does not stimulate the intestinal glands. 35. Tannic acid does not affect the secretion of bile. 36. Hydrastin is a moderately powerful hepatic stimulant, and a feeble intestinal stimulant. 37. Juglandin is a moderately powerful hepatic and mild intestinal stimulant. 38. Sodium-benzoate is a powerful hepatic stimulant. It is not an intestinal stimulant. 39. Ammonium-benzoate stimulates the liver, but not quite so powerfully as the sodium salt of benzoic acid. It does not stimulate the intestinal glands. 40. Benzoic acid stimulates the liver, but owing to its insolubility its action is less rapid and much less powerful than that of its alkaline salts. 41. Sodium-salicylate is a very powerful hepatic stimulant. It does not notably stimulate the intestinal glands. 42. Sodium-chloride is a very feeble hepatic stimulant. 43. Sodium bi-carbonate has scarcely any appreciable effect as an hepatic stimulant, even when given in large doses. 44. Potassium bi-carbonate feebly excites the liver, and that only when given in very large doses. 45. Potassium iodide has no notable effect on the biliary secretion. 46. Sulphate of manganese does not excite the liver, though it is a powerful excitant of the intestinal glands. 47. Hyoscyamus does not notably affect the biliary secretion, and does not interfere with the stimulating effect of such a substance as sodium-salicylate. 48. Pure diluted alcohol does not affect the biliary secretions. 49. Jaborandi is a very feeble hepatic stimulant. 50. Morphia has no appreciable effect on the secretion of bile, (every practical physician knows that morphia has a decided effect in stopping the secretion of bile in man!) and does not prevent the stimulating effect of such a substance as sodium-salicylate.

ARTICLE XXI.

OPTIC NEURITIS. By WM. DICKINSON, M. D., of St. Louis.

This disease, on account of its insidious character, and the extremely delicate texture of the tissues involved, is especially dangerous to the integrity of vision. Most affections of the eye are preceded or accompanied by symptoms more or less palpable. Even mild cases of conjunctivitis declare themselves unmistakably by very observable phenomena; but these, if uncomplicated, endanger the safety of the eye in but a slight degree. Keratitis, fraught with more danger, is announced by less manifest and striking symptoms; iritis, also an inflammation of still greater gravity and peril has its peculiar assemblage of well marked but less decided symptoms than the first mentioned; and thus, in general, the more profound the parts involved, the greater the hazard incurred, and generally by symptoms less pronounced.

The disease under consideration usually is not preceded or accompanied by affection of other parts that sustain anatomical or functional relations with the optic nerve, nor even announced by pain, the outcry of nature to declare the presence of lesion; rarely is it occasioned by injury to the globe itself, or of the surrounding tissues; nor, again, is it always or usually declared by obvious ophthalmoscopic changes. But the earliest symptom, and that which commands the attention of the patient and incites him to seek advice, is impaired vision, to a greater or less degree, the chief characteristic of which is that it has been gradually progressive. And even for this he rarely makes application to his medical adviser or the specialist for relief until vision is seriously, perhaps irreparably, impaired. And indeed the probability of observing this impairment is diminished by the fact that one eye only being affected, he unconsciously uses for all purposes of vision, the better eye exclusively. Accident first brings to his knowledge the astounding fact that little or no vision exists in the affected eye—such as the casual closure of the unaffected eye while vision is simultaneously continued or attempted with the other. Not unfrequently I have been consulted by persons

whose vision in one eye was nearly *nil*, and yet this condition must have have existed for months, but which, by themselves, incredible as it may seem, had been observed only for a very short time.

Sometimes this diminution may be appreciated, but yet not the least apprehension of its grave import is aroused, and the matter is dismissed with the inconclusive and fatal reasoning: "It came on of itself, and I guess it will go away of itself." Too frequently his physician, when consulted, applies the same logic, and thus calms the rising fears of his patient, attributing the obscurity of vision to headache, dyspepsia, constipation, or to the chronic affection of some remote organ, through sympathy or reflex action, and treatment appropriate to these conditions is prescribed. These may exist, it is true, as concomitants, and should be obviated, but they do not constitute appreciable factors in inducing optic neuritis. This superficial aspect of the case is especially to be deplored, for this is the time when a correct diagnosis is of the highest importance, and the golden period of successful treatment, at which probably alone, arrest of neuritis is possible. and when alone restoration, if ever, is within the realm of therapeutic agencies. This is the time when is demanded the most accurate investigation of the actual condition of the fundus; how far conforming to, and how far deviating from, that normally presented; to what degree allowances may be made for individual differences in vascularity and still be within physiological limits; whether the papilla is swollen and presenting itself above the spherical plane of the fundus. It is important that all these data be early and definitely ascertained, for they enter as elements into an intelligent diagnosis, and upon this depends the direction of treatment, which should be vigorously employed. If the diagnosis be conjectural, treatment is made at random, and being aimless, but little benefit (except by accident) can reasonably be expected. Meanwhile the patient, deluded by the consciousness that something is being done, hopes on, but reports no improvement, or rather increased obscurity of vision. Other agents, perhaps more active, are plied with the same exercise of misdirection and misapplied effort. and with like results. Efforts are made in the wrong direction, certainly not in the right; and the neuritis is still unchecked. The consequences are permitted to proceed with cumulative power and redoubled energy, due in part at least to the regimen pursued.

Frequently the physician is not consulted by the patient at all until apprehension of blindness compels. At this time the disease has attained an advanced stage of progress; the delicate tissues of the optic nerve and its neuri-lemmata have suffered such nutritional changes as to render restoration to their normal condition impossible, and the patient can then be assured only of slight improvement or of arrest at its present stage. The import of the classic adage, *osta principiis*, thus receives a tremendous emphasis.

I cannot insist too strongly upon a careful observation of the above suggestions. Several cases of the character described have recently come under my observation, and have specially instigated the preparation of this paper at this time.

Usually the physical consequences of optic neuritis can be detected as soon as diminution of vision supervenes, especially if the cause is situated near the globe. It is then characterized by increased vascularity of the papilla; the vessels ordinarily invisible on account of their diminutiveness, under this new condition, have acquired a greatly increased size; proliferation of tissues speedily takes place from vascular engorgement; the papilla becomes swollen and projects forward into the vitreous, the points of emergence and convergence of the primary arteries and veins indicating its locality in the fundus. This affection is often accompanied by inflammatory cloudiness of the vitreous, which condition greatly interferes with a satisfactory ophthalmoscopic examination; in such cases vision is almost wanting unless the objects are strongly illuminated. The neurilemmata of the optic nerve (outer and inner sheaths) are usually the parts first affected, and in their condition the stratum of loose connective tissue interposed also participates; œdema, and sometimes hemorrhage, takes place in the papilla.

Causes.—Like all effects optic neuritis is doubtless due to pre-existing efficient causes, but very often they are of so occult nature and vaguely foreshadowed that they are not recognized and appreciated as such. Among causes proximate or predisposing to optic neuritis may be enumerated exposure to strong light, natural or artificial, powerfully acting on tissues already predisposed to this affection, or to extreme and frequent alternations of light of different degrees of intensity; excessive and long continued exertion of the visual act; it may result from embolism

of the central artery, from pressure occasioned by orbital abscesses, or neo-plastic tumors of a more enduring character, or by the process of proliferation passing immediately to the neurilemmata; basilar meningitis, idiopathic; or from constitutional syphilis—in which latter class of cases it is often accompanied by or consequent upon iritis or irido-choroiditis; it has also been found associated with diseases of the liver and the kidneys. Many cases must be referred to disturbances of circulation in organs remote; to anomalies of menstruation, or other affections of the uterine organs; in fine, debilitating diseases of whatever kind, which through an inhibitory effect upon the sympathetic system, occasions a neurosis of the vaso-motor nerves, which determines local congestion of the optic nerve, and thereby are induced such nutritional changes therein as are incompatible with the due and continued performanace of its functions.

From researches made by Türck, he promulgated the view that an increase of the cranial pressure rendered difficult the emptying of the ophthalmic veins into the cavernous sinus, and that by this, disturbances of circulation were caused, which extended to the retina. This was adopted also by Von Graefe. This relation of cause and effect being established may lead to the prognostication of impending cerebral lesions. If, therefore, such conditions be present, both eyes are always affected. But those who thus suffer are rarely conscious of the great peril that threatens their vision, and unwilling to be convinced of it, they more rarely are disposed to submit to the regimen and treatment indispensably requisite to obtain even the best results, imperfect though they be, from the symptoms which we know are of so grave a character; and failing probably of finding *immediate* relief from treatment the best advised, in their desperation they rush from that which is legitimate and intelligent to that supported by more hopeful, but surely unauthorized, assurances of the mercenary empiric.

The swelling of the papilla alluded to may be occasioned in the following manner, viz.: A lymph space exists between the outer and inner sheaths of the optic nerve, by means of which direct communication is established between the arachnoid space and the eye. Intra-cranial pressure, from whatever cause, may produce an œdema of the inner sheath and of the connective tissue processes which it sends into the optic nerve. These being numerous at the papilla, this œdema will cause a swelling of the

optic disc. If this reasoning be correct, sustained as it is by anatomy and the laws which govern fluids, the diminution of vision in consequence of this swelling of the papilla, small though it be, becomes a symptom of prodigous import, and at the same time of great value in the diagnosis of cerebral disease. Being thus early detected, opportunity is afforded for the adoption of prompt and energetic measures looking to the removal of the causes, ameliorating the effects, and at a period when alone any great amount of success is attainable.

Course.—The course of this affection is exceedingly insidious, especially in its incipiency, its presence usually being evidenced only by the single subjective symptom, diminution of vision, though in rare instances there may be complaint of a slight degree of headache. Temporary improvement and relapse are salient features of this affection, and this alternation may be continued during months and years before utter extinction of vision shall take place. Whatever peculiarities may accompany its progress, its tendency and termination is one and the same: total or practical blindness, unless early detected; if, however, it is diagnosed at its outset, it *may* be induced to yield to remedial measures intelligently adopted.

If the cranial portion of the optic nerve be the part primarily affected and the proliferation of tissue does not extend downward along the nerve to the papilla and retina, as is often the case, then these latter mentioned parts usually atrophy, presenting true atrophy as distinguished by the ophthalmoscope, and amaurosis is the result.

In rare cases the interstitial tissue, interposed between the sheaths of the optic nerve, becomes gradually swollen, as the effect of extensive infiltration, by a product turbid or very fluid and serous. In some cases the cranial portion thus swollen has attained the size of the little finger. Such cases are usually associated with Bright's disease or tuberculosis, and exist simultaneously with collections of serum at other parts.

Both optic nerves may be affected at the same time, or only one, the latter being the more frequent, the process limiting itself to that portion of the optic nerve anterior to the chiasma. If this condition has continued for a considerable period, the vascular twigs normally quite numerous in the papilla are mostly or

wholly absent, then is presented pure or gray atrophy and with it amaurotic blindness.

As observed above, the globe externally gives no evidence of the fatal processes present and progressing within. Before the grand era of the introduction of the ophthalmoscope, this affection would have been termed progressive amaurosis, another name for progressive blindness, the real pathological condition being unknown or merely conjectural. Such, with sad frequency, is the termination, in spite of the numerous agencies at our command to arrest and restore. Let us interrogate the revelations of this little instrument in a case of pure, uncomplicated optic neuritis. All the dioptric media are normally transparent. The optic disc and its minor details, as well as those of the fundus are distinctly visible. The papilla is, however, swollen; appears slightly projecting forward into the vitreous; all its vessels are enlarged, even the minute branches, which in the normal condition are not apparent. In consequence of the generally increased vascularity the outlines of the papilla in some instances can with difficulty be distinguished, and its precise locality can be determined only by the convergence of the larger vessels. The tissues surrounding partake of the swollen condition indicated, and at a later stage, portions of the vitreous adjacent to the retina present a clouded appearance, in consequence of which vision is to a greater or less extent impaired.

But it is a remarkable fact that the ophthalmoscopical appearances of the fundus and the degree of vision do not always correspond. In the early stages, especially, very considerable changes in the condition of the fundus may be apparent, while vision as yet remains but little affected; this is the period of peculiar peril, because the disease not being indubitably declared by positive symptoms, its invasion is not duly recognized, and no interference being instituted, it continues to progress. Again useful vision may be nearly annihilated, and, as yet, the ophthalmoscopic changes indicate but little deviation from the normal condition, or while the appearances of the fundus are yet within physiological limits. This anomalous condition exists in consequence of the remoteness of the seat of the lesion from the globe and though quite good vision may for a time be retained, a great diminution may suddenly and without obvious cause, at any time take place, which shall advance to complete blindness in a brief space, in rare instances in a few hours.

Optic nerve atrophy argues the pre-existence of optic neuritis and is pathologically due to fatty degeneration of the fibrillæ of the optic nerve, and of its neurilemmata, or upon defective nutrition, occasioned by compression of the blood vessels, by exudation within the sheaths, or by their impermiability from other pathological conditions.

Treatment.—This must of course depend upon the conceived nature of the cause, and the peculiarites of each individual case. Optic neuritis is probably never due to a mere local optic nerve change, but always arises from encephalic causes which are occasionally hidden. At first it is essentially a disease of the connective tissue, rather than that of the nerve fibres themselves. Congestion being the first observable pathological change, all causes and influences that tend to produce it must studiously be avoided. Absolute rest of the eyes and exclusion of light is of prime importance, and reference to these conditions should be observed throughout treatment. While the patient remains at his home it is extremely difficult if not utterly impossible to secure them, because the temptations are so numerous and irresistible to infract injunctions imposed, arising from fancied necessities of various kinds, aided by the want of due appreciation of the gravity of the affection. The single visual act continued but for a moment may set in motion a series of causes and effects that shall neutralize the victory by toilsome progress gained over an insidious and baleful foe, by dint of persistent efforts of a week or month. The admission of light to the room must be intelligently regulated and by slow gradations. In respect to medicaments, there are no specifics with which we can resist the progress of this disease. The systematic and judicious employment of the various salts of mercury have been found most efficient, (e. g.) mild chloride, bi-chloride, pot.-iod., whether or not there is a syphilitic history. These may be supplemented or alternated with pot.-iod., and pot.-brom. The internal exhibition of strychnia alone or in conjunction with iron, will often prove beneficial. If the affection be recent and the patient tractable and submissive, and suitable treatment be employed, amelioration or cure in many instances may reasonably be anticipated. But if the disease has made much progress and continued through several months and quantitative vision only remains, a most unfavorable prognosis must be given. Even under the most favorable aspect and while

our efforts seem to be crowned with triumphant success, it should be remembered that there is a strong proclivity to relapse, from slight and apparently insignificant causes.

The treatment prescribed will obtain additional effect by counter irritation to the nucha, the mastoid processes and temples, combined with leeching to the same parts. This treatment, pursued through two or three weeks, in favorable cases, will give evidence of beneficial results. Should *considerable* improvement fail to take place, arrest of the disease and preservation of the present visual power, is usually the most that can be attained, and even this is an achievement of inestimable value.

The prognosis under all circumstances must, therefore, be very guarded; the more intense has been the congestion, the greater has been the connective tissue proliferation; and the longer the period during which infiltration of the optic nerve has existed, the less favorable the prognosis. In many instances before application for treatment is made, such injury has been inflicted by these processes that restoration is impossible, and yet so inappreciative is the patient of his real condition that very often he regards the affection as comparatively trivial, and that some simple treatment, or the adjustment of a glass of proper focus, is all that is required.

When, therefore, a patient informs us that defective vision in one or both eyes was the first symptom observed, and that this has regularly or by successive gradations progressed, unaccompanied by other symptoms of a decidedly significant character, optic neuritis is to be more than suspected. The aid of the ophthalmoscope is then immediately to be invoked, and if the suspicion is confirmed by the appearances of the fundus, the course of treatment and regimen above enjoined or one similar, is to be pursued; and although the condition of the fundus may still be within physiological limits, the integrity of vision is still in great jeopardy, and a regimen continued for an indefinite period, based upon the revelations of that instrument, vigilantly obtained from time to time, is imperatively demanded.

ARTICLE XXII.

A RARE CASE OF PERI-NEURITIS FOLLOWING NERVE LESION. By F. F. DICKMAN, M. D., of Fort Scott, Kansas. Read before the Southeast Kansas District Medical Society, July 1, 1879.

The article in the April number of the *American Journal of Medical Sciences*, by Julius Althaus, M. D., entitled "A Contribution to Peripheral Nerve Diseases," reminds me of a case recently under my care; one of those rare forms of nerve disease following an injury, and at the same time a good example of the so-called trophic troubles which occasionally follow such lesions. The case was certainly unique, and for a time, an unsolved problem in diagnosis. Thinking the details might be of interest, I give them in the order of their occurrence.

On the night of August 10th, 1878, I was called to see Mr. V., a stout, hearty man, 40 years of age, a coal merchant by occupation, who, in driving down an embankment, was thrown from a buggy, picked up in an unconscious condition, and conveyed to a house a short distance away. When I saw him, about four hours afterwards, I found him still in a semi-conscious stupor, difficult to arouse, able to swallow, pulse 50, pupils contracted, respiration regular, but interspersed by frequent sighing. No sign of any paralysis. A closer examination revealed the right clavicle broken and a severe contusion involving the left side of the face, eyelids swollen nearly shut, conjunctivæ deeply injected, especially the outer half. A diagnosis of concussion of the brain was made, in addition to the other injuries named. My patient became fully conscious on the third day, and made as rapid a recovery as the circumstances would admit, or could be hoped for.

About a month afterwards the patient called my attention to a severe pain beneath the left eye, in the region of the prominence of the cheek and infra-orbital foramen, deep down in, of a boring character (as the patient expressed it) constantly present, night and day, without intermission. I regarded the pain as of an ordinary neuralgic character, and for a period of six weeks

everything in the shape of anti-neuralgic remedies were tried, and found to be of no avail; opium alone gave any relief. Finally the patient became disgusted and passed from under my observation for a time.

In December, 1878, my colleague, Doctor H., called my attention to the patient again. He was now complaining, in addition to the pain, of a sweetish taste which annoyed him a great deal, constantly present, before, during and after meals. Everything tasted sweet.

Doctor H., attributing the taste to a catarrhal condition of the mucous membrane of the stomach (the man being somewhat intemperate), found all his efforts useless. Aware that the patient had previously been under my care, he asked me to assist him in a more thorough investigation of the case.

Upon a closer study we found little evidence of either catarrh of stomach or intestine; in fact no evidence of abnormality in any of the abdominal organs, or their physiological functions. The processes of digestion, assimilation and excretion were certainly carried on with their accustomed vigor. Tongue clean, appetite good, sleeps well when not too much annoyed by the pain described, no headache, no tenderness upon pressure over the region of the stomach or intestines, nor any complaint of flatulence or distension from gaseous accumulations. I finally decided the trouble to be nervous and concluded that at the time of the accident some injury had been sustained by the nerve or its sheath, or the parts immediately adjacent thereto, producing an inflammatory irritation, and that the pain and taste had this common factor as a cause. Quinine and the mineral acids were prescribed subsequently, by advice of counsel; bismuth and pepsin in large doses, and the nitro muriatic acid were tried, under the impression that there existed some abnormal condition interfering with the proper transmutation of amylaceous substances; with this same view, at a later period, I had the patient take free cathartics, and then abstain from all starchy food for a time. But all our efforts were of no avail, the abnormal taste persisted.

On March 6th, 1879, the patient called my attention to a few vesicles upon his forehead, and stated that on the evening before he had suffered from a severe pain on the left side of the head and face, for which he applied spirits of camphor freely and attributed the eruption to the use of this drug. I advised an anodyne lotion. The next day I called to see the patient at his

home; he now suffered from an intense burning pain over the left half of the face. The herpetic eruption had extended so as to cover the entire distribution of the cutaneous branches of the trigeminus. The eruption was vesicular in character, some isolated, some in groups; there seemed to be a vesicle for each nerve filament; this was particularly noticeable at the nose and the mental foramen; a few were on the inside of the upper lip; here they looked like little blisters from a burn, ashy gray in color, very little if any elevated above the surface, resting upon a slightly reddened base, with healthy tissue intervening. The affection was strictly limited by the median line. The temperature was 99°, pulse, 80. No chilly sensation. I felt warranted in making the diagnosis of herpes zoster; prescribed anodynes freely, a laxative, followed by quinine and iron, and ordered the vesicles painted over with collodion.

March 8th, 1879, patient rested well; temperature 99°, pulse, 90. Treatment continued.

March 9th, 1879, patient reports not so well; Doctor Baldwin in counsel. Condition about the same, except the face being swollen and a diffused redness suggest the idea of erysipelas; temperature 99°, pulse, 100. Treatment substantially continued. At Doctor B.'s suggestion olive oil was applied to the surface, followed by a hop poultice.

March 10th, patient doing well; rested better last night; temperature 100½°, pulse, 100. Treatment continued.

March 11, patient improving; some of the vesicles scabbing over; temperature 101°, pulse, 105.

March 13th, two days later patient convalescent, free from pain, eats and sleeps well; temperature and pulse normal.

A week later the patient had a similar attack, going through about the same course; coming on with an intense itching, followed by the acute, burning pain, and finally the eruption, which underwent pustulation and left distinct, depressed scars of irregular sizes.

Since this last attack the patient has been entirely free from the deep seated pain, and measurably so from the abnormal taste, and complains most of an itching sensation still present in the parts. The interest in the case can be best studied under the following heads:

First, will the facts in the case warrant the diagnosis made, and, second, can we with any degree of certainty localize the

seat of injury, determine the probable pathological factors, and thus account for the symptoms in the order of their occurrence?

Under the first head we may cite pain as a prominent symptom of neuritis, but in distinguishing it from common neuralgia, it loses much of its diagnostic value, unless we gather something from the character, long duration, and stubbornness in not yielding to remedies usually beneficial in such cases.

Charcot, in his lecture on "Diseases of the Nervous System," cites an interesting case reported by Beck, where a woman 57 years old experienced for about a year violent pains on the right side of her face—intermittent at first, but afterwards becoming continuous. The sensibility of the face never entirely disappeared; the conjunctiva of the right eye was deeply injected. Death took place unexpectedly. On *post mortem* examination the casserian ganglia of the right side was found to be of considerable volume, and hard, and the three branches of the corresponding trigeminus were much thickened up to the point of emergence from the bone."—[*Med. News and Library*, July, 1878.

The most prominent symptom of neuritis is pain at the seat of inflammation, or in the course of the nerve extension, to its remote ramification.—[Wood's Practice, vol. II, p. 909.

Mitchell, Morehouse and Keen (Gunshot Wounds and Other Injuries of the Nerves, Philadelphia, 1864), in speaking of certain cutaneous eruptions following nerve injuries, describe them as accompanied by acute pain.

Niemeyer cites pain as a prominent symptom of neuritis, in course of the inflamed nerve extending to its peripheral termination.—[Pract. Med., vol. II, p. 279.

Again, the abnormal taste. This, at first and subsequently, was thought to be due to some abnormal condition of the digestive organs; but upon close and frequent examination they were always found negative. The general health was found good, and the usual symptoms of catarrh of the stomach were entirely absent. Finally, the remedies prescribed were found to be of no benefit.

It is a well known fact in physiology that the voltaic current has a peculiar action on the nerves of special sense; thus galvanization of the optic nerve causes flashes of light; of the auditory nerve, ringing in the ear; of the gustatory nerve, a coppery taste in the mouth (author Amer. Jour. Med. Sci.). Our author cites a very interesting case of an affection of the olfactory nerve,

where the smell of phosphorus was very persistent. Further, in speaking of inflammation of the fifth nerve, he states that when this occurs in the first portion of the Fallopian canal, below the origin of the chorda tympani, we have the same symptoms as in external neuritis. But if the second portion is affected, we have, in addition, a peculiar modification of the sense of taste, variously described as sweet, bitter, etc., which must be ascribed to the fact that the chorda tympani has become involved. As analogous cases I may cite the photopsies in optic neuritis, and tinnitus aurium in inflammation of the middle ear.

Last, but not least, the herpes zoster; erysipelas, on first seeing the case, was thought of, but on carefully considering all the symptoms, we felt warranted in excluding that disease. The absence of chilly sensations, the delay of the elevation of the temperature until the third day, the absence of much swelling or diffuse redness, and finally the strict limitation by the median line, furnished ground for its exclusion. The vesicles were isolated and distinct. Relapses certainly cannot be of frequent occurrence in erysipelas, if we regard that disease (as is generally done) as an essential fever with a local manifestation. Herpes zoster is now regarded as an inflammatory affection of the peripheral ends of the trophic and sensory nerves. Prof. Wood, as early as 1866, says: "Attention has recently been directed to the fact that inflammation of the subcutaneous nerves is apt to induce inflammation of the skin, with a vesicular or other eruption on the same, and even herpes zoster has been referred to this origin."—[Loc. cit., vol. II, p. 909.

Prof. Charcot, under the head of traumatic nerve lesion, states that "trophic troubles consequent on nerve lesions are of such a nature as to set up an irritation in the parts, in which case, and then only, we see arise those tropical troubles to which I invite your attention;" and after classifying them under the head of skin affections, specially cites the zoster as of frequent occurrence, and even designates it zona traumatica.—[Loc. cit., p. 16.

Niemeyer, after claiming for herpes zoster a close resemblance to erysipelas, in being an acute dermatitis, arising from unknown causes, and after giving Hebra's definition, viz., "a series of acute cutaneous diseases of cycical course, marked by an exudation which collects in drops under the epidermis and elevates it," finally states as follows: "It may be regarded as established

that herpes zoster depends upon disease of the trophical fiber of the motor or sensory nerves, which supply the parts affected."

The facts stated and authors cited would seem sufficient to draw the following conclusions, namely, that while total division of any nerve, i. e., separation from its center is followed by complete abolition of its functions, irritation, whether by a current from the galvanic battery, an injury from a wound, or a pressure from an exostosis or tumor, or the products of inflammation within its sheath or near it, or inflammatory changes in the nerve itself, or ganglia may produce exaltation, or some change in its usual function; thus pain in a sensory nerve, spasmodic contractions in muscles supplied by motor nerves, and the peculiar changes in the functions of nerves of special sense already described, while at the same time the trophic fibers of these same nerves lead to those peculiar changes of nutrition in the skin, muscle or bone, described by the author, and to a certain extent present in our case.

In the attempt to locate and arrive at some knowledge of the pathological condition, a brief description of the regional anatomy of the affected nerves will not be out of place. From its superficial origin a lateral part of pons varolii, the large or sensory root of fifth nerve passes through an oval opening of the dura mater, in company with the motor root, and terminates seemingly in the Gasserian ganglia; from this are given off three branches: The ophthalmic passes forward along the outer wall of the cavernous sinus, through the sphenoidal fissure, divides into lachrymal, frontal and nasal branches, supplying the forehead and upper portion of the face. The second or superior maxillary passes forward through the foramen rotundum and emerges on the face at the infraorbital foramen, supplying the middle third of the face. Third and last, the inframaxillary, is joined by the small root of the fifth, just after it emerges from the foramen ovale; a final branch reaches the surface by the mental foramen and supplies the lower third of the face. The Gasserian ganglia is lodged in a depression near the apex of the petrous portion of the temporal bone, its upper surface intimately adherent to the dura mater. The chorda tympani and glosso pharyngeal, one of the divisions of the eighth pair, are the special nerves of taste; the former is an apparent branch of the seventh, a motor nerve. Physiology, however, has demonstrated it to be a nerve of special sense, it probably has a distinct origin; it leaves the seventh at the back

of the tympanum, ascends from below upward in a distinct canal running parallel with the aquaductus fallopus, through the cavity of the tympanum, and joins the lingual branch at an acute angle. The glossopharyngeal passes from its superficial origin across the flocculus and leaves the skull at central portion of jugular foramen, and in its passage grooves the lower border of the petrous portion of the temporal bone. This must suffice for the anatomy.

Judging from the symptoms in the order of their occurrence; first pain, then abnormal taste, it would seem that the sensory nerve was affected before that of special sense; the fact that all three branches of the trigeminus, the evident deep seat of the pain, and the occurrence of the eruption nearly six months later, are evidences that the irritation was central and not peripheal, the close proximity of the groove which transmits the glossopharyngeal to the Gasserian ganglia, will afford one explanation why an affection which originally only affected sensation, should finally produce a change in taste. What this cause of irritation is, whether disease of the petrous portion of the temporal bone, or the dura mater in the immediate locality, I am unable to say. That the special cause still exists there can be no doubt as shown by the abnormal taste, some pain and itching sensations still remaining. In conclusion I will state that several diagnostic tests were omitted. I neglected, however, to state in the text that there was at one time some anæsthesia of the surface. To note the difference of taste between the two sides was unfortunately entirely omitted.

ARTICLE XXIII.

EPITHELIOMA. By W. H. DALY, M. D., of Pittsburg, Pa.*

Having recently had occasion to observe four cases of epithelioma—two of which I treated, the remaining two declining what they regarded as unnecessarily heroic treatment—I was enabled only to study their characteristics and history, which, with your kind permission, Mr. President, I will briefly present to the consideration of the Society this evening.

It may not be altogether out of place to remark here that a microscopic examination of epithelioma shows among its textures great numbers of cells of irregular shape, $\frac{1}{100}$ to $\frac{1}{1200}$ of on inch in their long diameter, which resemble normal epithelial cells encapsulated. From this resemblance the disease is named. There is high authority both for and against classing it among cancerous diseases.

The history of the four cases which I present to you this evening add their testimony, meager though it be, to the doctrine that epithelioma is cancerous in character, and decidedly so, and this is my reason and excuse for reporting them.

CASE I.—John O'C., aged about 64, married, and the father of a large and healthy family, a native of Ireland, applied to me for treatment at the Department for Diseases of the Throat at the Pittsburg Free Dispensary, in May of the present year. He called my attention to a sore upon the inner margin of the lower lip, right side. The teeth immediately behind the sore were deeply indented by the attrition of clay pipe stems. He had been an inveterate smoker for years, and addicted to spreeing, as well. He was of fine, stalwart build and ruddy complexion, and had never been sick in his life, to use his own expression.

The sore was somewhat fungous at the bottom, with an indurated and everted rim of a grayish white, while the bottom was a bright red, and painless. I diagnosticated the case to be one of

* Read before the Allegheny County Medical Society.

epithelioma. He declined the use of the knife at this time, and begged that milder measures should be tried. This was done for some weeks, the sore meanwhile increasing, when at length he consented to be admitted to the Western Pennsylvania Hospital on June 18th, for the purpose of removal of the sore by an operation with the knife. I effected the removal the following day, being assisted by the resident staff; the incision being an irregular V shape one, with the apex toward the mental process of the inferior maxillary bone, the base at the margin of the lip. This is the portion of the lip removed (pathological specimen exhibited). The epithelial sore you will observe on the inner surface and margin of the lip, extending well down to the labio maxillary fold.

The wound was closed with hare-lip sutures, and healed rapidly, leaving little or no deformity, as you will see by this picture, taken soon after the healing process was completed. He was discharged from the hospital, with the hope, at least, that the disease was arrested for a reasonable length of time; but in that I was disappointed, the patient again presenting himself for treatment at my throat clinic in less than three months. I then found a swelling which was quite red, and indurated, involving the body of the inframaxillary bone posterior to the mental process. The swelling was about the size of a split olive, and tender. He declined operative interference when informed it would be necessary to remove a portion of the lower jaw.

Some weeks after he reconsidered his determination, and applied to me again. I then found the right sub-maxillary gland involved to a considerable extent, and the patient's health much broken down. Declining to operate myself under these unpromising circumstances, I referred the case to my colleague, Dr. McCann, at the Western Pennsylvania Hospital, whose judgment agreed with my own in the matter. I had hoped to have shown you this case to-night in its present condition (the tumor has grown to a large size), but the patient is now an inmate of the Poor Farm. His case must soon have a fatal termination.

CASE II.—Jas. K., a gardner, aged 35, native of Ireland, was sent to me by his employer, from McKeesport, for advice. He was an inveterate pipe-smoker. I found a sore upon the margin of the lower lip, left side, which was about the size of a silver ten cent piece; scooped out, grayish white edges, and red, eroded

bottom; surrounding tissues extremely indurated. In fact, the sore seemed to be underlaid with a stratum of indurated texture, which accounted for its having existed for six years upon his lip without further apparent contamination than a few small lymphates in the structure of the lip below the labio maxillary fold. These felt like peas imbeded within the lip, were painful upon pressure, and extremely hard.

Regarding this case as an admirable one for operation by means of the galvano-cautery, as with the small cautery knife I could penetrate the tissues deeply after removing the parent sore, and reach the infected glands within and below, compassing their entire destruction without the loss of blood or the production of much pain. This I did at once, aided by Drs. Wallace, Estep and McKelvy, and without the use of an anæesthetic, the patient really suffering little pain during the operation. The case was given into the care of my neighbor, Dr. Wallace, owing to my own contemplated absence from the city immediately after the operation. The case progressed favorably to a complete healing of the parts, without resulting deformity, and it is to be presumed that so far there is no return of the disease.

This case is peculiar in the fact that the patient was much broken down and cachectic, yet notwithstanding this condition, the epithelial sore had existed upon his lip for more than six years without infiltrating the tissues to any extent further than a distance of an inch and a half below the parent sore. This can only be accounted for by the extreme induration of the underlying structure and the inactive state of the absorbent functions of the lymphatics.

CASE III—Presented more striking features in a robust Irishman, aged about 40, of ruddy complexion, unmarried. Had been intemperate, both as to drinking and smoking. Upon the left side of the tongue, near its base, was seen a tumor about the size and shape of a walnut, fungous in appearance, deeply fissured upon its surface, but painless. Both submaxillary glands were involved to enlargement the size of pullet's eggs, and tender. The common carotid arteries passing just beneath gave their impulse to these glands in a marked degree. What was especially interesting in this case was that the present condition was the growth of only two weeks. I proposed to remove the tumor, along with half the base of the tongue, by use of the galvano-ecraseur, hoping

by this to avoid the dangerous hemorrhage which might follow other means, and to remove both submaxillary glands by a careful dissection with the knife. The patient agreed to every measure excepting the *quid pro quo*, and was dismissed without further consideration, not deeming him a proper subject for charitable or gratuitous treatment, as, by his own admission, he was able to pay. I learned afterwards that my friends, Drs. Huselton and McCann had been consulted by this man, the latter having expressed to the patient an opinion similar to that I gave him, viz., whatever could be done, should be accomplished without further loss of time.

CASE IV.—Mr. C., aged about 60, Irish. An inveterate smoker. Had a fissure upon the middle fore border of the lower lip, which seven years ago grew into a sore. He afterwards became insane and was a patient at Dixmont's, during which time compulsory abstinence from smoking permitted the sore to heal. After the recovery of his mental faculties and a return to his labor, he also returned to the habit of excessive smoking and the sore returned soon after. About a year ago, an operation was made by the use of the knife, at the Free Dispensary, for the removal of the sore, which was pronounced epithelial cancer, according to the patient's statement. At the present time the sore involves about one inch in length of the red border of the lower lip and its entire width, with marked involvment of the inferior maxillary gland of the left side. As operative interference was declined by the patient, so, accordingly, was further advice declined on my part, as mere medical treatment must prove fruitless, and soon surgical interference will even be of no avail.

One lesson of these cases is that the entire removal of the diseased structure, with a liberal inclusion of surrounding apparently healthy tissue, should early be resorted to.

In case I, I am now quite satisfied that in the delay occasioned by the hopes of the patient, that his disease could be medically cured, was the time during which the subjacent maxillary bone and gland became involved, though not apparently so, yet enough to cause the appearance of the diseased growth in this new locality.

Another lesson is, so far as these cases are concerned at least, first, that if infiltration of surrounding tissues are characteristic

of cancers, they all possessed it. Second, if a tendency to infect adjacent glands belong to cancers, these cases had glandular infection. Third, if a tendency to recur is a feature of cancer, one of these has fulfilled all the lineaments, and it is not unsafe to presume that case II will likewise be recurrent, since the subject is one of cachectic constitution.

ARTICLE XXIV.

EPITHELIAL CANCER—AMPUTATION AT HIP-JOINT.* By F. J. LUTZ, M. D., of St. Louis.

Instead of writing a lengthy paper upon any one subject, I have taken the liberty to bring before you a few specimens which have been exceedingly interesting to me, and which I hope will give rise to a discussion of the pathological conditions which they represent.

It is far from me to claim either originality or novelty for the few remarks with which I wish to preface the report of a case of epithelial cancer; on the contrary, I would rather you should consider them an attempt briefly to sketch our present positive knowledge concerning the origin of this most remarkable deviation.

For obvious reasons I will refrain from the discussion of those great questions concerning the part which the system at large plays in the production of cancer, or the influence which some hold, a certain neuropathic condition exerts; these are problems as yet *sub judice*, and beyond my present intention.

Experience has taught that epitheliomata are the most local, and hence the most curable of all forms of cancer. Add to this the frequency with which they occur, the importance of recognizing them in their very incipiency cannot be over estimated. The diagnosis is, however, usually attended with considerable difficulty.

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* Taken from advance sheets of the Transactions of the Medical Association of the State of Missouri.

At first, a simple epithelial exhuberance takes the place of the stroma and this crowding out is most apt to occur when, as in advanced years, the skin, owing to the fact that it has become atrophied, cannot successfully resist the encroachments of the epithelium. Hence Thiersch has defined the origin of epithelial cancer, a disturbance of the histogenetic equilibrium between epithelium and stroma. Any structure into whose composition epithelium enters may be the site of epithelial cancer; most frequently, however, it begins on the surface of the hitherto apparently healthy skin.

"The first thing that is observed," says Busch, "is a horny scale rising a little above the surface of its surroundings, and clinging firmly to its base, so that it cannot be removed by an ordinary ablution. If it is torn forcibly away, a bleeding surface is exposed; a careful removal of the scab exhibits its rough under-surface, with numerous small projections (cones) which extend into the skin."

Of course the size of these cones varies with the structure upon which the scab is found Thus, they are much more delicate on a scab taken from the lips than on one from any other portion of the face.

The skin from which the scab has been removed forms a slight indentation; this is covered by a delicate layer of epithelium, and by a careful examination the small cavities into which the cones had been inserted can be discerned.

It would be erroneous to consider this condition cancer. As yet it is but a hypertrophy and continued nutrition of those cells, which in the normal course of events are thrown off. Besides this hyper-nutrition of the epithelial cells, there is also hypertrophy of the papillæ of the stroma, a fact which is accounted for by the increased amount of nutritive material furnished to the particular spot.

This condition, as stated above, is not cancer, but may develop into that dreaded malady. Sometimes these scabs are thrown off, and renewed in endless succession, without any other change; again, after this process has been repeated a number of times, the scab is not formed again, but a *wet* surface is left behind—the naked cells are visible.

The ulcer now asaumes great activity. The soft cells rapidly protrude into the subjacent connective tissue in the form of cones. We have before us an eating ulcer, which may either present an

even surface, or the outgrowing papillæ may give it a cauliflower appearance.

If this development of epithelium does not progress too rapidly, the ulcer may exist for years, purely local, exerting no deleterious influence upon the general system. Usually, however, the cones penetrate the subjacent tissues, enter the bones, and infect the lymphatics. The system now becomes infected; the local disease has become constitutional.

An interesting, but, as yet, unsettled question, suggests itself at this juncture, namely, whether the first scab which forms and which is suffered to remain, prevents the newly formed epithelium from growing towards the surface, as in the normal condition of affairs, thus forcing it to grow downwards or rather inward. Be this as it may, experience teaches that by repeated removals of the scab, a more extensive development of the cones mentioned before is prevented.

Busch has shown that if the scab is washed away by a solution of soda (one part of soda to one hundred parts of water) repeatedly during the day, the indentation which remains after the removal of the scab gradually rises to the level of, and becomes covered by normal epidermis. Hence it is of the utmost importance, after removing an epithelioma, to direct the patient to wash the cicatrix regularly with a weak solution of soda. No one would, however, venture to assert that this will prevent a recurrence, for who can be absolutely certain that he has removed the whole of the neoplasm? And we know that if only a single epithelial cone is left in the deeper structures, hypernutrition goes on in it; the cells are multiplied, and they accumulate until they finally burst open upon the surface.

CASE.—The skull, which I will pass around for your inspection, was taken from a German 35 years of age, a laborer by occupation, who was admitted into the Alexian Brothers' Hospital, April 29th, 1877. His family history was good; no cancerous or syphilitic case had, to the best of his knowledge, ever occurred in any member of his family. He himself had never suffered from any venereal disease, and had enjoyed good health throughout, until two years prior to his admission, when a small pustule made its appearance on his face, about over the *infraorbital foramen*. The scab which formed over it he was in the habit of removing with his finger nails. The ulcer grew larger and deeper, in spite

of the numerous salves and ointments which he employed on the recommendation of kind and sympathizing neighbors. When the wound had reached the size of a silver quarter and some considerable depth, he consulted a physician, who drew the edges together by means of sutures, and promised the patient a speedy cure. After submitting to various other modes of treatment, he finally sought admission to the hospital.

Fig. 1.

The appearance of the disease then can best be understood by examining fig. 1.

It will be seen that there are two wounds, separated by the malar bone. The orbital portion of the superior maxillary and a part of the superior wing of the sphenoid were destroyed; the inferior and external rectus muscles and the inferior exterior portion of the eyeball were laid bare. The second wound involved the articulating surface of the inferior maxillary and the glenoid cavity. The anchylosis resulting therefrom permitted the patient to separate the jaws only about one-half inch. How far the deeper structures of the orbit and post nares were involved could not be determined. Deglutition, especially of liquids, was performed with comparative ease.

The case was repeatedly seen in consultation by my distinguished friend and teacher, Dr. Gregory, and my colleague, Dr.

Wesseler, and it was concluded that operative interference was not justifiable, because of the great inroads already made by the disease. The treatment, therefore, consisted in keeping the wound clean by repeated ablutions and dressing it with a solution of carbolic acid gr. iv, and chloral hydr. gr. ii to ℥j of water. Internally Potass. Iod. and arsenic, together with other tonics. To relieve pain, morphia and chloral were administered.

Fig. 2.

Fig. 2 represents the patient about four weeks before his demise. The septum between the two wounds has now been destroyed and the side of the head presents an enormous cavity.

For three years and two months he withstood the ravages of the disease and finally succumbed June 15th, 1878.

On post mortem the vessels of the brain and its membranes were very much infected. The cerebral substance itself was softened throughout, but more especially the right anterior lobe, which was of the consistence of cream. In the membranes over the anterior lobe there was a circular aperture about one and a half inches in diameter.

You will see from the specimen that the right side of the face is destroyed, the right superior maxillary and malar bone, the zygomatic process, and the greater part of the squamous portion of the temporal bone, the whole anterior and middle fossa of the

base of the skull are destroyed. The turbinated bones are partly gone and the sphenoidal cells are laid open.

Osseous structures, invaded by epithelial cancer, rarely produce outgrowths like those found in medullary cancer. The bones become soft, are broken up and finally destroyed. It is one of the distinctive characteristics of malignant ulceration that the tissues, after becoming infiltrated, degenerate and ulcerate away. The skull before you shows that the bone has cleared away before the cancerous ulcer; the cavities in the osseous tissue, with their abrupt, jagged, eaten out edges, evince the rapid work of irreparable destruction.

Fig. 3.

In conclusion, it may not be amiss to say a word about operative interference, for this part of the subject is the one in which both the patient and the surgeon are most interested. The accumulated experience of surgeons shows that quite frequently both the sufferer and the operator are sadly disappointed by the rapid recurrence of the disease after its supposed removal by the knife, yet whenever the diseased part can be removed in its entirety, without great risk of life, surgical interference is to be advised, for experience has also taught that in a number of cases good results may be hoped for, and at the worst, the removal may give great comfort for a time, at least.

AMPUTATION AT THE HIP-JOINT.

The next specimen to which I wish to call your attention, is a femur taken from a thigh which I amputated at the hip-joint, on the 17th of March of this year.

Exarticulation of the hip is an operation of such gravity and such rarity, that it is important for every surgeon whose lot it may be to be called upon to perform it, to record his results, in order that some light may perhaps be shed upon some, as yet, mooted questions.

The patient, who is 18 years of age, and whose family is of a scrofulous constitution, came under my observation about eight months before the operation was performed. He then presented a most emaciated appearance, a high temperature in the evening, loss of appetite and sleeplessness. For six months he had been confined to his bed with running sores at his hip. He could assign no probable cause which may have excited the inflammation. On examination, several sinuses were observed, through which a probe could be passed down to the roughened surface of the upper third of the femur; motion at the hip-joint somewhat limited; false anchylosis at the knee. Osteo-myelitis was diagnosed and it was proposed to the patient to cut down upon the bone, in order to give free exit to the pus and to remove the necrosed bone which would be encountered. He, however, declined any operation, and I had to content myself with uniting two of the larger sinuses, which resulted in an opening about four inches long, running longitudinally. The finger, passed into this opening, found a cavity extending under the gluteal muscles and around the neck of the femur. The opening was kept open and the abscess and sinuses were washed out with antiseptics. Nutritive diet and tonics were administered and the patient gradually gained strength. He was soon afterwards removed to his home in the country and I saw nothing more of him until March 12th, when I was again summoned.

The patient now presented the appearance of a skeleton. His skin was of a peculiar waxy color, liver and spleen slightly enlarged, bowels regular; examination of urine gave only negative results; tongue clear and dry; pulse 110, feeble and quick. The left thigh, from the knee upward, presented the appearance of

an Indian club used by gymnasts with the thick end near the hip joint. Above the knee I could encompass the thigh with my thumb and middle finger. The opening which I had made when I last saw him had been closed with the exception of a small opening near the trochanter major, from which considerable pus of a very fœtid odor, dribbled. The soft parts were undermined in every direction; the leg was œdematous. He had not left his bed for eight months, and could move the diseased limb only by means of the healthy one.

The opinion was given to the patient and his relatives, that possibly an amputation would save the life of the sufferer, but that the chances were very much against him. Of course I expected no immediate answer, and I was rather surprised after the discouraging picture which I had drawn to him, to receive a message next day to come and operate at my earliest convenience.

After making all the preparation necessary for so formidable an operation, I proceeded to perform it on the 17th of March.* The patient was placed under the influence of chloroform, and I would here say in parenthesis, that in the struggle which ensued during the administration of the anæsthetic, I firmly grasped the diseased thigh about its lower third, and by doing so, forced an opening into the soft parts with my thumb, from which about a pint of pus flowed.† He was then placed upon his right side and an incision about seven inches in length was made, beginning an inch and a half above the trochanter major, parallel to the longitudinal axis of the femur, and a little in front of its posterior border. After the muscles had been divided near their tendinous insertion, the head of the femur was exarticulated, and the soft parts divided as though a circular operation was being performed. The hemorrhage was controlled by manual compression and the arteries were ligatured without much difficulty. About three ounces of very thin blood was lost. The flaps which contained tissues of very doubtful vitality and which seemed bloodless, were now united by means of silk sutures and adhesive strips and

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* I embrace this opportunity to return my thanks to Drs. F. W. Saunders, Chas. E. Stevens and A. Fuhrmann, for their efficient assistance during the operation.

† Since this paper was read, Mr. Furneaux Jordan has published a detailed description of an operation similarly performed, in the *London Lancet*, American Reprint, July, 1879.

oakum used as a dressing, with a wad of oakum as a drain in the outer and inferior angle of the wound. At the completion of the operation the patient seemed collapsed; the radial pulse could not be felt; breathing regular, however. Warmth was applied to the sound limb and trunk, and stimulants were administered, under the use of which he again rallied.

I will not trespass upon your time by giving a detailed account of the progress of the wound; suffice it to say that the longitudinal one healed by first intention, and the other was gradually closed by granulation. At present drainage is kept up by about a dozen horse hairs, and the patient walks about on crutches and has taken several rides on a wagon. He is steadily gaining in strength and in weight, and will, no doubt, completely recover.

Fig. 4.—The appearance of the stump. Nov. 29th, the wounds are entirely healed.

ARTICLE XXV.

IS PHTHISIS SELF-LIMITING? By WM. PORTER, A. M., M. D., of St. Louis, Mo.

[The reader's attention is first called to the following extract from a discourse read before the New York Academy of Medicine, May, 1879, entitled "Self-Limitation in Cases of Phthisis," by Prof. Austin Flint.]

It is now more than forty years since Jacob Bigelow applied the term self-limited to certain diseases. Quoting from his remarkable discourse, delivered before the Massachusetts Medical Society, in 1835, "By a self-limited disease, I would be understood to express one which receives limits from its own nature, and not from foreign influences; and which, after it has obtained foothold in the system, cannot, in the present state of our knowledge, be eradicated or abridged by art, but to which there is due a certain succession of processes, to be completed after a certain time; which time and processes may vary with the constitution and condition of the patient, and may tend to death or recovery, but are not known to be shortened or greatly changed by medical treatment."

Using the term self-limitation as expressing an intrinsic tendency in a disease to pursue a certain course, irrespective of treatment, its application has been much extended since the publication of that discourse, by the study of the natural history of diseases. A host of diseases have been shown to be self-limited. All the essential fevers, inclusive of acute pneumonia, and many acute inflammations, are, as the term has been defined, self-limited diseases. It was proved in 1863 that rheumatism or rheumatic fever, and in 1875 that acute dysentery belong to this category. If the term be used in a sense embracing different degrees of that attribute of disease which renders it independent of treatment, as regards course and termination, most diseases are more or less self-limited; and it is of interest to inquire in different diseases and in different cases of the same disease, how far the course and termination may be due to self-limitation.

One object in this discourse is to show that the favorable course and ending in certain cases of pneumonic phthisis are determined by self-limitation.

More than twenty years ago, in a paper published in the *American Journal of Medical Sciences* (January, 1858), it was claimed in behalf of this disease, that it may be self-limited. This claim was based on the results of an analysis of twenty-four cases which had ended in recovery. The claim was renewed in a pa-

per read before the New York Academy of Medicine, in 1863, and published in the Transactions of the Academy. It has since been reiterated, after the analytical study of a larger number of cases, in my work on the principles and practice of medicine, and in a more recent work on phthisis. If called upon, however, at the present time, to name a disease which does not exemplify self-limitation, perhaps pneumonic phthisis or pulmonary consumption would at once suggest itself in the minds of most physicians. Judging from the impressions derived, not alone from intercourse with medical practitioners, but from medical writers, of all diseases, this is one which is least expected to end favorably from an intrinsic tendency. If I mistake not, it is generally supposed to tend always to a progressive course, and cessation of its progress is considered as implying always some extrinsic agency by means of which it has been arrested. I propose to show the incorrectness of these views. But let me first inquire, what is necessary to establish the fact of the favorable course and termination of this or of any other disease being due to self-limitation.

A disease is, in this sense, self-limited when it ends in recovery irrespective of extrinsic influences derived from either hygiene or therapeutics. A patient, whatever be the disease, who recovers without any potential remedies or measures of treatment having been employed, and where there has been no material change in any of the circumstances pertaining to daily life, owes the recovery exclusively to self-limitation; in other words, the favorable course and termination are due to an intrinsic tendency. This intrinsic tendency may often be promoted by judicious treatment; and to endeavor to do this is a rational object of therapeutics. On the other hand, this tendency may be obstructed by injudicious treatment, a result which, of course, the physician endeavors to avoid.

Self-limitation cannot be inferred from a single case or a very few cases, for this reason: The course and termination of a disease may be affected by influences which are extrinsic but not apparent. In order to obviate liability to error on this score, the number of cases must be sufficient to render it extremely improbable that all such influences could have been overlooked. It is needless to say that the cases from which the inference of self-limitation is drawn must be carefully and honestly observed. Another condition is essential, namely, there must be no room for doubt as to the accuracy of the diagnosis.

The difficulties in the way of collecting cases of certain diseases, with a view to test self-limitation are obvious. If deliberately observed for this purpose, the physician must be able to reconcile to his conscience the proceeding. Assuming that he can do this, how seldom, in a disease like phthisis, could the concurrence of patients be obtained? Indeed, no phthisical patient would or should consent to comply with the conditions required for such an object of clinical study. The cases collected, there-

fore, must be those in which, independently of a deliberate purpose on the part of physician or patient, either the disease was allowed to pursue its course without any treatment, or the treatment was of such a character that no curative influence could be attributed to it. Cases in which these conditions are fulfilled are rare, but during a period of thirty-four years I have preserved the histories of a number amply sufficient to substantiate the statement that, in certain cases, pneumonic phthisis, or pulmonary consumption, ceases to be progressive, and may end in recovery from self-limitation.

The question will be asked: What meaning do you attach to the terms pneumonic phthisis and pulmonary consumption? I do not include under these names acute tuberculosis. This is a distinct disease. As justly remarked by Andrew Clark, from a clinical point of view it has more the characters of an essential fever than of a local affection. I exclude also the affections known as interstitial pneumonia, cirrhosis of lung or fibroid phthisis. Existing alone, this disease has characters sufficiently distinctive. I shall consider in this discourse the terms pneumonic phthisis or pulmonary consumption as applicable to all cases of phthisical disease, exclusive of acute tuberculosis or interstitial pneumonia, not raising any inquiry as to distinct forms of phthisical disease aside from the latter affections, and neither affirming nor denying their existence. With this understanding I proceed to the evidence of self-limitation in cases of pneumonic phthisis or pulmonary consumption, using instead of those names, the term phthisis, for the sake of brevity.

Of 670 cases of phthisis noted during thirty-four years, the list embracing a few cases of acute tuberculosis and interstitial pneumonia, 44 ended in recovery. In my work on phthisis, published in 1875, the details of the history of each of these 44 cases are given sufficiently to render evident the fact of recovery and the correctness of the diagnosis. I refer to this work for these details. In 31 cases the disease ceased to progress, remaining non-progressive for at least several months, and in the majority of the cases for several years. In these 31 cases the phthisical disease may be considered as ended, complete recovery from its effects, or the lesions incident thereto not taking place. As cases for analytical study, with reference to the agencies causing the cessation of the disease, these 31 cases of non-progressive phthisis are hardly less valuable than those in which there was complete recovery. Adding the two groups, there are 75 cases in which either recovery from phthisis took place or the disease ceased to progress.

Such a collection of cases offers a rich field for clinical study with reference to several points of inquiry having important bearings on prognosis and treatment. I shall take up here but one of these, namely, the proof of self-limitation. In how many of these cases is it evident from the histories that the disease was

not arrested by either medicinal or hygienic treatment? The answer to this question furnishes the proof of self-limitation.

Of the 44 cases ending in recovery, in 23 there was no medicinal treatment to which an arrest of the disease could be attributed. In several of these 23 cases there was no medicinal treatment; in the remainder of the cases the treatment consisted of simple tonics, cough palliatives, or remedies to meet some other symptomatic indication. In none of the cases could the treatment be considered curative. Of the 31 cases in which the disease was non-progressive without complete recovery, in 15 there was no medication by which it might be supposed that the disease was controlled, and in several none whatever. I call attention to the fact that in two groups of cases, namely, those ending in recovery and those in which the disease was non-progressive without recovery, medicinal treatment was either wanting or in no degree curative in about an equal proportion, being, in the first group, 23 of 44, and in the second group, 15 of 31. It may fairly be surmised that this fact has a significance beyond mere coincidence.

In respect of hygienic treatment, in some cases of both groups there was no change whatever in habits of life. In other cases there were changes involving more favorable circumstances pertaining to hygiene; but in a considerable portion these changes were not of such a character that a potential influence could be attributed thereto. It is probably correct to say that the changes may have favored recovery or non-progression, but were inadequate to cause an arrest of the disease.

In my work on phthisis, a history of each of the cases now referred to is introduced. To recite the histories here would require too much time. I will ask only those who may be so disposed, to examine them as contained in the work, for the correctness of the diagnosis, the recovery or non-progression, the duration of the disease, and other points of interest. I claim that these histories substantiate self-limitation in cases of phthisis. They show that this disease may cease to progress, and end in recovery, because it is self-limited.

I cannot cite authorities supporting this claim in behalf of phthisis. I am unable to refer to authors who have declared in distinct terms that this is ever a self-limited disease. That it is so in a certain proportion of the cases in which it ceases to progress and ends in recovery, is a logical conclusion based on the considerable number of histories to which I have referred.

The curability of phthisis is by no means a novel doctrine. Since the physical diagnosis of this disease has been brought to a demonstrative precision, all observers of much experience will agree that patients have recovered, even after considerable solidification of lung and the formation of cavities. Moreover, this fact has been abundantly demonstrated by post mortem examinations. But in all these instances the disease has been supposed

to be cured, sometimes by medicinal and sometimes by hygienic treatment, or by both combined. The position has not been taken by others, so far as I know, that the recovery in certain of the instances was spontaneous, that is, attributable to self-limitation.

My object in this discourse is to show that I have been warranted in taking this position by the facts to which I have referred.

[A Paper read before the St. Louis Medical Society.]

It is well known that at a recent meeting of the New York Academy of Medicine (May, 1879), Prof. Flint asserted his belief in the self-limitation of phthisis (*Arch. f. Med.*) This assertion was made so forcibly and sustained by such seemingly positive proof that it has thus far been received without recorded dissent. It being a subject of vital importance, with all respect for the learned author we will examine his position from his own standpoint, and cite the cases which he has noted. The deductions that follow will thus be made upon ground already chosen.

At the outset, however, I cannot but echo Andrew Clarke's just tribute to our author, for he is "one from whom I have learned much; one whose acute powers of observation, whose largeness of experience, deserve the warmest gratitude of every student of pulmonary pathology." We revere and honor Flint; therefore, we shall deal freely and directly with his conclusions.

Let us, then, gentlemen, receive the evidence purely upon its merits, forgetting, if possible, the high authority which we call in question. It is, moreover, right that a decision be reached in this matter, for if phthisis be self-limiting, this element must necessarily affect the result in no small degree; but if it is not, then must we look to therapeutic force and hygienic conditions for success.

What is meant by self-limitation? So far as our argument is concerned, the definition given by Prof. Flint is well adapted. "A disease is self-limited when it ends in recovery, irrespective of extrinsic influence derived from either hygiene or therapeutics."

We might almost rest our case here, for it will be at once conceded that the rule is that phthisis does not end in recovery, irrespective of extrinsic influence. To this rule there are few, if any,

exceptions—certainly too few to affect the question. To these exceptions, however, our author points, and says they "are amply sufficient to substantiate the statement that in certain cases pneumonic phthisis ceases to be progressive, and may end in recovery from self-limitation." I will endeavor to prove to you, gentlemen, that phthisis is not, and cannot be, from its very nature, a self-limiting disease; and will ask you to examine with me briefly, first, whatever in the causation and pathology of phthisis relates to the subject; and, second, the clinical evidence adduced by Prof. Flint to substantiate his position.

Let us at the outset look for a working definition of phthisis. Flint, in the discourse mentioned, considers the "term pneumonic phthisis or pulmonary consumption as applicable to all cases of phthisical disease, exclusive of acute tuberculosis or interstitial pneumonia." Very true. What, then, is phthisical disease? A wasting, a constitutional disease, "a progression of symptoms, characterized," as Andrew Clarke has it (*N. Y. Med. Rec.*, Dec. 14, 1878,) "by an ulcerative or suppurative destruction of a more or less circumscribed non-malignant deposit in the lung." The great factor back of all local manifestation is, then, the phthisical cachexia. Flint himself (Prac. Med., p. 289), admits the pathological fact that the pulmonary invasion is "the local expression of a general or constitutional morbid condition, the latter being the essential disease." He further says, "the great object of treatment, therefore, is the removal of this constitutional morbid condition or the tubercular cachexia. Measures addressed to the pulmonary affection are of secondary importance." How, gentlemen, can we believe that pulmonary phthisis, the local manifestation, is self-limiting, when back of it we have the tubercular cachexia? The author having taught that phthisis is the local expression of a cachexia, yet self-limiting, the deduction must be that the cachexia—this tubercular cachexia—is self-limiting also; in other words, that this condition, with its sequences, has an "intrinsic tendency to recovery irrespective of extrinsic influences derived from either hygiene or therapeutics." Is it any wonder that we turn from the *ipse dixit*, and call for proof ere we subscribe to this doctrine?

Let us glance at some of the causes of phthisis, and see if we can relegate to them a self-limiting tendency. Among these we have inheritability, age, climate, habits of life, poor food and exposure. Now, if from any of these causes—and these are the

principal ones—a man has phthisis, is it reasonable to expect a limit from intrinsic influence? And if the man recovers, the cause being removed, is it not to this rather than to self-limitation that the result is due? When a patient with an inherited tendency to phthisis is so strengthened as to resist the advance of the disease; or by care and prudence lives beyond the dangerous decade; or weakened by an effeminating, changeable climate, seeks a better one; or exchanges a hurtful occupation for one more favorable—there is a cause for the stay of the disease more tangible than "self-limitation." To such a cause will we find most, if not all, recoveries from phthisis are due.

A few words regarding the pathological characteristics of phthisis. Here I cannot serve my purpose better than to again quote from Prof. Flint: "The fact to be especially borne in mind is that pulmonary tuberculosis is not primarily and essentially an affection of the lungs. The tuberculous products proceed from a prior morbid condition of the system. It is a rational inference that a vice of assimilation is involved in the existing cachexia." Putting aside all disputed points as to the relation of true tubercle to phthisis (Prof. Flint using the terms phthisis and pulmonary tuberculosis in the same sense—Prac. Med., p. 271), we have this succession which all admit—cachexia, mal-assimilation, pulmonary invasion. The latter impairs the respiratory function, and thus reacting upon the assimilative, the cachexia is further determined. The patient is thus inclosed in a morbid circle which can only be broken from without. Limitation must result from either repressing the cachexia, restoring assimilation, effecting retrogression of the pulmonary invasion, or all of these together. Tell me what is there intrinsic in this vicious circle which will cause it to break itself? The rather, each link becoming its own cause, grows stronger through the others, and without extrinsic influence the disease progresses. In the very nature of cause and effect it cannot limit itself.

If, then, what we know of the causation and character of phthisis is opposed to the idea of self-limitation, let us examine the clinical evidence adduced in support of this theory.

Prof. Flint, in his well-known work on Phthisis (1875), records 670 cases of this disease, among which were 75 in which either recovery took place or the disease became latent; and his recent paper is founded upon their histories. Now, gentlemen, it is to these 75 cases that we must look for all the proof that has been

given of the self-limitation of phthisis. By these, thus far, must the proposition stand or fall. We find that in 31 of these cases the statement is merely that "the disease ceased to progress for at least several months, and in the majority of cases for several years." By reference to the record we find that the last examination of each gave evidence that the disease was still present—latent in some, as may occur in phthisis, but not self-limited; for "a disease is self-limited when it ends in recovery," etc., and these had not recovered. As according to our author's own definition 31 of these cases have no definite bearing upon the point in question, we are restricted to the study of the remaining 44.

As self-limitation is independent "of extrinsic influence, derived from either hygiene or therapeutics," we at once decline the evidence of 21 of the 44 cases, for in all of these pertinent and generally persistent treatment was pursued. Moreover, *three* of these cases subsequently proved fatal, and the last examination showed that at least a third of them had still physical signs of phthisis. We object to these 21 histories as not pertinent. The interest now centers in but 23. "In 15 of the cases hygienic measures constituted the treatment;" but these measures were of such a character as would lead us to hope for favorable result, viz., change of business, out-door life, rest, sea voyages, change of climate, etc. These are potent aids, for as Flint says (Prac. Med., p. 290), "out of door life is of all measures most important." Now, to prove a disease self-limiting, we must eliminate whatever can be reasonably traced to "either hygiene or therapeutics." These 15 cases were given the advantage of favorable hygienic condition, and who shall say they would have recovered without these conditions? Having made use of that remedy which of all others has been found efficacious in phthisis, these 15 cases are certainly not examples of self-limitation.

I have refrained from occupying your time with the details of the author's cases, which, in accordance with his own definition of limitation, have been refused as evidence. The history of these is fully given in his work on Phthisis, and I have endeavored to deal fairly and justly with the record.

Let us now apply the test to the 8 cases which alone remain. These are numbered 1, 4, 7, 8, 14, 20, 23 and 24 (Phthisis, p. 187, *et seq.*), and are the only ones of which the author says "there was no medicinal treatment of importance, and no material

change in the habits of life, the recovery taking place purely from an intrinsic tendency."

Case I is that of a farmer who, having in the winter of 1842-'43, expectorated what were thought to be pulmonary calculi, was examined in June, 1843; "the only physical sign noted was feebleness of the respiratory murmur." He was in excellent health 13 years after. "Prior to the development of the disease the patient had worked very hard on a farm. He left home for several weeks, and after relinquishing severe labor, engaged in buying and selling new lands in Illinois, a business which required much out of door life." Excellent treatment!

Case VII is that of a constable, examined in April, 1856. Six years before he had had a hemorrhage, and shortly afterwards recurrent hæmoptysis for ten days. During the following year Prof. Flint met this man from time to time on the street, and he seemed to be in good health. As this man evidently had phthisis for *six* years prior to examination, what reason is there, in the absence of a later examination, to suppose that he had entirely recovered during *one* succeeding year? The statement that he seemed well will apply, at times, to many cases of chronic phthisis. "There is no further record of this case. The treatment consisted of cod liver oil for six weeks, generous living, the use of malt liquors, and out of door life. Very good extrinsic influences, we take it.

In case XXIV we find that the patient consulted Dr. Flint by letter, in 1859; was relieved of part of her duties as a teacher; took more out of door exercise; traveled in the summer. In 1862 had abnormal dullness, feeble respiration, and increase of resonance and whisper at the right summit. Afterwards traveled in Europe; in 1868 had hæmoptysis; in 1869 increase of symptoms, and she died in the spring of 1871. Did this patient recover, and that without change of hygienic condition?

Case IV.—A physician, aged 28, had hæmoptysis in Oct., 1852, and again in January and May, 1853. In May, 1853, he had slight dullness at the right summit, with weakened respiratory murmur and crackling, which accompanied inspiration and expiration. In September, 1854, he reported himself well, "a year after recovery;" i. e., his recovery must have dated from September, 1853, five months only after the above symptoms were noted. However, we find that in September, 1854, there was

still "dullness at the right summit, and the respiratory murmur was feeble."

Case XIV.—A physician, who had cough, hæmoptysis and slight loss of flesh, was examined October, 1857, and found to have evidences of phthisis at the left apex. Five years later Dr. Flint saw him in apparently good health. He had been drinking beer, living generously, with an abundance of exercise out of doors. It seems that in this case and in number IV, no medicinal agent was used, though the patients were physicians. They both had the influence of riding and driving in the open air while engaged in country practice.

The three remaining cases do, so far as recorded, seem to be instances of recovery from phthisis without medical or hygienic agency.

Number VIII was a clerk, examined in August, 1856, having had cough two months previously and hemorrhage a week before. There was dullness and feeble respiration at the right apex and sub-crepitant râles on both sides. In October, 1856, he was reported well, and was in good health in 1871. The thought is at once suggested, why did he, being examined at a time of greatest danger, not have medicinal treatment? The case is, however, one of great interest, and is certainly an exception to the general rule, as the disease appeared, progressed and abated within a period of five months.

The other two cases, XX and XXIII, furnish the best evidence in favor of self-limitation, though the record is very short. Two sisters, whose parents, three sisters and two brothers, had died of phthisis, were found, one with disease of the left apex, the other of the right. No remedy of importance was given, or change made in the habits of life. Both were well 15 years afterward. Again the question may be asked, why was not some form of treatment or change of condition ordered in these cases, as "no effort had been spared to save the lives of their sister and brothers; traveling, changes of climate, together with remedies having been resorted to in vain, although, perhaps, with the effect of retarding the progress of the disease." With this, however, we have nothing to do. The record is that these two sisters for whom nothing was done, alone recovered. Granting that these two cases and the one and possibly the three preceding ones show evidences of self-limitation, yet, we again quote from

Prof. Flint's paper, "Self-limitation cannot be inferred from a single case or a very few cases."

Twenty years ago Prof. Flint advanced the idea of the self-limitation of phthisis (*Am. Jour. Med. Sci.*, 1858.) A year ago the question was ably reopened by the same author. The conclusions made, though much quoted, have not as yet, as far as we know, been indorsed by any of the many observers and investigators of pulmonary disease. Is it possible that in all this time all others have overlooked this most important element in the progress of phthisis, to which attention has so long ago been called? Does not the etiology, pathology and termination of phthisis plainly teach that without extrânecus influence, phthisis is progressive, limited only by death? Clinical evidence is certainly opposed to the doctrine of self-limitation, for we find that even in the large experience of its only advocate, among hundreds of recorded cases, that this doctrine is sustained by but few, and in all fairness we confess a doubt as to the pertinence and value of most of these.

As Prof. Flint has placed the evidence before us, it is the right and duty of every physician to examine it, and to judge for himself. If phthisis is self-limiting, let it be proven so, for with the assertion comes the *onus probandi*. As yet we must believe that self-limitation is not an element in the character of the disease.

Though unwilling to admit that there is an intrinsic tendency in phthisis to recovery, yet we should not lose sight of the fact that many cases of phthisis respond to judicious treatment and hygienic conditions. In truth, in no other disease is careful scrutiny and constant care more necessary or better rewarded. Even were self-limitation ten times proven, it should not lessen the vigilance and attention which such cases demand. In all cases of phthisis two forces are at work—one aggressive and morbid with (as we believe) a direct tendency to death; the other defensive and systemic, opposed to and retarding the progress of disease. Whatever method of treatment is pursued, it and everything connected with it should tend to the building up of the system and the increase of the powers of resistance to disease. In this we believe is the true limitation of phthisis.

Reports on the Recent Progress of Medicine.

VENEREAL DISEASES.

BY LEGRAND ATWOOD, M. D., Collaborator for the JOURNAL.

RAPID CURE OF SYPHILIS BY SALIVATION.—In the *London Lancet*, Dr. Jonathan Hutchison reports a case of secondary syphilis in a female, the whole surface being covered with a scaly and papular eruption. After the third mercurial bath she was severely salivated. She was confined to bed for a week or two, during which time the disease entirely vanished. It was the most rapid cure of severe secondary eruption the doctor ever knew. —[*Pac. Med. and Surg. Journal.*

METALLIC MERCURY IN SYPHILIS.—Dr. Furbringer, in the *Archiv. für Klin. Med.*, recommends the hypodermic use of metallic quicksilver in syphilis. His formula is:

℞ Hydrarg depur..... 2.0
Musilag accacia..... 10.0

Rub well together and gradually add

Glycerin puris..... 10.0

This makes a permanent emulsion, not readily oxydizable. The absorption of mercury in this form is very gradual and efficient. About half a syringeful (= 0.05 metallic mercury) is an average dose.—[*Med and Surg. Rep.*

CHRYSOPHANIC ACID IN SYPHILIS.—In connection with internal specific treatment, Dr. Renmont of Aix la Chapelle recommends this formula for local application in obstinate syphilides of the face and hands:

℞ Chrysophanic acid..... 1 to 2 parts,
Ung. petrolie..... 10 "
M. Sig: Apply once every day or two days.

It is especially valuable in psoriasis syphilitica.—[*Med. and Surg. Rep.*

SYPHILIS OF THE CENTRAL NERVOUS SYSTEM.—At a recent meeting of the Königsburg Association for Scientific Medicine (*Berliner Klin. Wochen.*, 1879, p. 407), Dr. Naunyn spoke upon this subject. Out of sixty cases to which he referred, where the history of the patients had been accurately noted, eight had been examined post mortem. No exostoses (which during life are so frequently set down as the cause of brain symptoms in syphilis) were found. On the other hand, gummata in the brain substance, subdural gummata softening as a sequelæ of endarteritis, with or without consecutive thromobosis and simple softening were ascertained to be present. Brain symptoms frequently belong to the earlier manifestations of the disease. Naunyn has frequently seen it within the first year. Heubner's assertion, that intellectual and particularly active men were particularly liable to this form of disease does not appear to be borne out by Naunyn's experience. In general, it may be said that young persons are particularly liable to brain syphilis. That there are any specific peculiarities about the disease excepting the paralysis of the ocular muscles and pain in the head, Naunyn cannot admit. The only characteristic point is that the usual symptoms occur in the young instead of the old. An important diagnostic point is the absence of symptoms pointing to compression (*staunngspapilla, etc.*). The usual symptoms are those pointing to a center of disease; hemiplegia was common in Naunyn's cases, together with paralysis of the ocular muscles in many instances, which, as is known, rarely occur in ordinary hemiplegia. Epilepsy is not uncommon. Charcot's assertion that hemi-epilepsy is particularly characteristic of syphilis is not borne out by Naunyn's experience. He has *never* seen a case. Paraplegia occurred in eight cases out of the sixty; once the group of symptoms pointed to a hemiplegia spinalis. The prognosis of brain syphilis is, according to Naunyn, always doubtful. The number of cases which entirely recover is very small. In any case, however, the prognosis is more favorable than when the same symptoms are due to any other cause. Naunyn uses mercurial inunctions and only employs iodide of potassium occasionally. —[*Phil. Med. Times.*

EARLY ANTISEPTIC TREATMENT OF BUBOES.—Wagner (Cbl. f. chir. 1879, No. 34, from *Breslaner Aerze Zellschr.*) recommends as the result of his experiments, the early opening of buboes with

careful observance of Lister's antiseptic method, provided the diagnosis is clearly made out of an actual inflammation, not merely an enlargement of the glands. Wagner not only recommends all buboes to be taken out which are suppurating, but even those which are much swollen. The result is extraordinarily satisfactory.—[*Phil. Med. Times.*, Oct., 1879.

SYPHILIS IN JAPAN.—Previous to 1869 the percentage of cases admitted to hospital for syphilis in Yokohama, was 24.4; in that year legal preventive measures were enforced, and since then the admissions have been reduced to about 11 per cent. The Japs approve of preventing this disease by legal sanitary measures; so do the French, English and Germans. The Utah Indians, Hottentots and citizens of the United States do not; they think it would interfere with the liberty of the individual or else would be immoral.—[*Med. and Surg. Rep.*

SYPHILITIC NEURALGIA.—It should be borne in mind that some cases of obstinate neuralgia are of syphilitic origin. Dr. Higgins recently reported one to the Toledo (Ohio) Medical Association. It was of a man suffering from pain in the right sciatic nerve, recurring periodically every day at the same hour. He treated it with quinine and anodynes for ten days, when he remembered that he had treated the same man some years previously for syphilis, the symptoms being hyperæsthesia of scalp, nocturnal pain and tibial node. The patient had had a sore twenty years before. There was no paralysis. He put him on the iodide of potassium, which relieved him within four days.—[*Med. and Surg. Rep.*

GELSEMINUM IN GONORRHŒA.—In the *Western Lancet*, Dr. J. Sullivan extols gelseminum as an unfailing remedy in the early stage of active gonorrhœa. The fluid extract should be given four times a day, after meals and at bed time, beginning with six or eight drops and increasing two drops every dose up to twenty drops, or until the patient experiences the peculiar intoxication, when it should be continued in smaller doses, as much as can be easily tolerated for a few days, or till the discharge becomes lighter or disappears. An eighth of a grain of morphia is sometimes advantageously added to each dose. Saline purgatives, rest and abstinence are essential parts of the treatment. After the acute stage has passed, copaiba and the oil of sandal wood will soon complete the cure.—[*Med. and Surg. Rep.*

Translations from the German.

PATHOLOGY AND THERAPEUTICS IN OPHTHALMOLOGY. [Taken from Prof. NAGEL'S *Jahresbericht ueber die Leistungen und Fortschritte im Gebiete der Ophthalmologie.*] By S. POLLAK, M. D., Surgeon to the Eye and Ear Infirmary of the St. Louis Hospital. Translated for the JOURNAL.

BAUCHERON (*Gaz. Hebdomedaire de Med.*,) on account of the quite natural dread of a hideous disfiguration, desires to substitute *neuratomy of the optic and ciliary nerves* for *enucleation* of the bulb in all cases of sympathetic ophthalmia where and whenever the latter may be indicated. He never performed it on human beings, but only on dogs, rabbits and cadaver, in the following manner: Divide the conjunctiva and the capsule of Tenon about one centimeter from the corneal margin, between the rectus superior and rectus exterior; penetrate with scissors, bent on the flat, between the bulb and the capsule of Tenon. Seize the bulb with a tenaculum, near the cornea; draw it out and put the optic nerve on a stretch, and divide it as well as the ciliary nerves and post ciliary arteries. The hemorrhage is only a trifle. In order to be sure that the ciliary nerves have been divided, the incision in the capsule of Tenon needs to be enlarged, the sclerotic seized with another tenaculum, then by a slight rotation the entire posterior surface of the bulb can be brought into view and completely inspected. Experiments on animals convinced him that there is no danger of suppuration; cornea and media remain clear. Clinical experience taught the same results after injuries of the optic and ciliary nerves. Schweigger has also recently advocated the same proceedings, (though it must not be forgotten that divided, or even excised nerves, frequently unite again, and thus may fail in attaining the object of the operation.)

SAVARY (*Ann. d'Ocul.*) mentions a case of sympathetic ophthalmia, caused by *ossification of the choroid* of the other eye.

HIRSCHBERG (*Arch. f. Ophth.*) gives an accurate anatomico-pathological description of four enucleated eyes, which had caused sympathetic ophthalmia.

I.—A man on whom, ten years previous, extraction of a calcarian cataract had been performed, with the total loss of sight. The other eye suffered from violent neuralgia, which subsided after enucleation of the blind eye, the autopsy of which revealed a detachment of the posterior part of the ciliary body and the anterior part of the choroid from the sclerotic, and a funnel-shaped elevation of the retina from the choroid. There was an abundant incrustation of calcarian matter on the posterior part of the retina, and a beginning of ossification of the choroid.

II.—A girl æt. nine; right eye injured by a knife, and followed eight months later by sympathetic irido-cyclitis. Only tardy improvement of the sympathetic ophthalmia followed the enucleation of the right eye. Autopsy demonstrated detachment of the ciliary body from the sclera by a gray translucent neoplasm and swelling of the papilla.

KNIES (*Arch. f. Ophth.*) report of the result of his anatomical examination of glaucomatous eyes has attracted universal attention. The autopsies of fifteen forms of *glaucoma* are given. As important and constant results are cited the changes in the region of the space (canal) of Fontana; the periphery of the iris is adherent to the membrane of Descemet; the space of Fontana is obliterated, and the surroundings all cell-infiltrated.

This obliteration of the space of Fontana has been noticed before, and supposed to be caused by increased tension. That it is not a mere mechanical pressure of the periphery of the iris or the cornea is demonstrated by the presence of an intervening adhesive substance. An inflammatory process must therefore be assumed, which accounts also for the infiltrations adjacent to the canal of Schlemm; sometimes also of the corpus ciliare, and of the sub-conjunctival tissue. An inflammation in the sclero-corneal region, where the chief outlet of the aqueous fluid of the eye is supposed to be, must necessarily increase ocular tension. In the obliteration of the space of Fontana, Knies accounts for all the cardinal symptoms of glaucoma, the haziness and anæsthesia of the cornea, irridoplegy, the flattening of the anterior chamber, the limited accommodation, and the venous scleral hyperæmia. Without insisting that glaucoma is only an oblitera-

tion of the canal of Fontana, he maintains that the changes in the surroundings of the canal of Schlemm constitute some of the main features.

SCHWABEL (*Arch. f. Aug and Orenh.*) develops in an able manner his views of the pathology of *glaucoma* and the effect on it of *iridectomy*. He sets out from the fact that the glaucomatous turbidity of the refracting media is caused solely by an opalescenee of the cornea; a turbidity in the corpus vitreus is not demonstrable.

The opalescence of the cornea is central, superficial; leaves the epithelium intact; never suppurates; disappears suddenly, certainly after iridectomy, without subsequent haziness. During its existence colors of the rainbow are seen.

(This must be differentiated from another periodical obscuration for which the eye furnishes no objective cause, and which does not improve after iridectomy.)

The above mentioned periodical haziness of the cornea is not of an inflammatory nature, but must be considered as a consequence of a *neurosis* of the secretion. Pains in glaucoma are not the expression of an inflammatory process; they come and go quite suddenly; they appear occasionally in advance of inflammation; they may even precede a glaucoma; they must be regarded as a simple neuralgia. Even in inflammatory glaucoma pains are manifestations of an independent neurosis. Increased tension is not pathognomonic of glaucoma alone. Excavation of the optic papilla may occur without an increase of tension of the bulb.

As to iridectomy, it does *not* change the intra-ocular pressure in the normal eye; it increases the inflammation in an inflamed eye, and leads often to disastrous results. But when one sees how promptly, as if by magic, pains, turbidity of cornea and tension are relieved by iridectomy in a glaucomatous inflamed eye, the conclusion is irresistible, by analogy at least, that it acts like neurotomy in neuralgia.

He concludes that glaucoma is necessarily a neurosis of the fibers of the trigeminus, but whether the sympathetic is implicated is yet doubtful.

LAQUEUR (*Centrabl. f. d. Med. Wiss.*) makes a communication that he discovered in *physostigmin* the property of *reducing* the *pathologically increased tension of the eye.*

After a repeated application of a four per cent solution, he noticed a gradual reduction of the tension of the bulb, which led to no small improvement of all its functions. Based upon the observation in six cases, he recommends physostigmin or eserin in glaucoma simplex; in all cases where an iridectomy had been made, without inducing a relaxation; in secondary glaucoma, without synechia. The rationale lies in the direct stimulation of the smooth muscular fibers of the choroidal vessels.

WEBER (*Arch. f. Ophth.*) publishes his experience of the therapeutic value of *physostigmin* or *calabrin* in various diseases of the eye, which he says increases the tension in the vitreous space and diminishes it in the anterior chamber. Calabrin acts in direct antagonism of atropia, which in a healthy eye lowers the tension in the vitreous space and raises it in the anterior chamber. He therefore recommends physostigmin in keratocele, in conical cornea, in ulceration of the cornea, as highly advantageous.

In glaucoma, he found physostigmin very useful, and explains its effect, that by the contraction of the pupil the detachment of the ciliary margin of the iris from the periphery of the cornea is effected, and the filtration of the fluids of the eye through the canal of Fontana is rendered possible, and thus tension is diminished.

WECKER (*Arch f. Ophth.*) recommends *drainage* as a remedy to promote filtration of the humors of the eye in certain cases of glaucoma. It is indicated in cases where iridectomy would be difficult and dangerous, as in glaucoma absolutum with atrophied iris; in hemorrhagic glaucoma; or where tension did not sufficiently yield to a well performed iridectomy. The relaxation after introduction of the gold drainage-thread is permanent, though it may have been left in a short time only.

ARGYLL ROBERTSON (*Ophth. Hosp. Rep.*) recommends *trephining of the sclerotic* in glaucoma where iridectomy may not be practicable or had not been successful. He removes a circular piece 1 mm. in diameter in the region of the posterior origin of the ciliary processes. He uses Bowman's corneal trephine for that purpose. The hiatus is generally filled up by a new loose texture which acts like a safety-valve against a renewal of the intra-ocular pressure. He performed the operation three times; however, one only was permanently successful.

FIEUZAL (*Clin. Ophth.*) tells of a case of "glaucoma fulminante" which manifested itself on the right healthy eye on the very day when iridectomy had been performed on the left eye for glaucoma. He considers it justifiable in a monocular glaucoma to iridectomise both eyes, the healthy one prophylactically.

FÖSTER (*Greefe-Sœmish*) thinks that severe debilitating constitutional diseases may cause acute and subacute glaucoma. He saw it succeed intestinal catarrh, vesical catarrh, pneumonia, erysipelas, typhoid fever, excessive venery. To great debility and moral depression, not to sympathy, is the sudden appearance of glaucoma in a healthy eye to be ascribed, almost on the day when an operation had been performed on a glaucomatous eye.

NETTLESHIP (*Lancet*) reports two cases of glaucoma on which *sclerotomy* was performed.

In one case iridectomy had been repeatedly made, with but negative results. Sclerotomy was so far successful that for seven months the patient was free from pain, and tension never attained its former degree again.

In the second, sclerotomy was performed on a blind glaucomatous eye. Here also pain and tension were permanently relieved.

BADER (*Ophth. Hosp. Rep.*) reports also four cases of sclerotomy in glaucoma, with good results. He is so much encouraged by the favorable effect of sclerotomy that in the last three years he performed it in preference to iridectomy, even in place of enucleation. Reduced tension and intraocular pressure are the results. It should be made upwards, corresponding to the insertion of the iris. The scleral section should occupy one-third of the periphery of the cornea. Greefe's small knife for the right eye, and a curved cataract knife for the left eye, are the best. The only objection to the operation is the easy subsequent formation of staphyloma, which may require surgical interference. However, this is not a real staphyloma, but a prominence of the conjunctiva, with more or less protrusion of the iris.

HUTCHINSON'S (*Brit. Med. Jour.*) remarks on glaucoma as a *neurosis* are new and interesting. He finds that there is a close analogy between glaucoma and a *contraction of the fascia palmaris*, a disease mostly met with in the aged. This latter shows itself

usually at the base of the ring and little finger. Fascia and sink unite with each other, and cause flexion of both fingers. This affection begins in one hand, but later the other is affected in the same way. *It is incurable.* He sees therein an analogy to a *chronic contraction of the sclerotic*, and considers both an expression of a deep-seated neurosis. He corroborates his theory with a case where there was glaucoma absolutum, with deep anterior chamber, contraction of fascia palmaris of both hands, and a whole series of other nervous symptoms—pain in the occiput, atrophy of the right arm, insomnia, general fatigue, and mental lassitude.

EXCERPTS FROM LATE GERMAN JOURNALS. [Translated for the JOURNAL.] By Dr. A. H. OHMANN DUMESNIL, of St. Louis.

PARALBUMIN.—Dr. Vulpius gives a method of determining the presence of paralbumin in fluids derived from cysts (especially ovarian) or serous cavities, remarking that its presence or absence has not, as yet, been proven of much value as a diagnostic symptom or as a method of differentiation. The method consists, essentially, of taking about 100 grms. of the fluid, filtering it, and adding to it about six times its weight of distilled water. If the fluid is too thick to be readily filtered, a part of the water may be previously added to it. In case it cannot be filtered after this treatment, it should be allowed to stand quiet for a time, and the clear liquid be carefully decanted. Through the solution thus obtained a current of washed carbonic acid gas is passed. A white flocculent precipitate shows the presence of paralbumin in the fluid. The addition of distilled water is indispensable, as solutions of the fluid give no reactions when undiluted, and immediately give marked indications upon its addition.

Another method of testing for the presence of paralbumin is to take a part of the filtered fluid, add to it three times its volume of absolute alcohol, and allow it to stand. After twenty-four hours the precipitate that has formed is collected, dried between sheets of absorbent paper, and dissolved in fifty times its weight of distilled water, at 50° to 60° C. The solution thus obtained gives a precipitate, upon adding a solution containing a thousandth part of acetic acid, if paralbumin be present. It is further possible to distinguish paralbumin from metalbumin in

this solution by adding sulphate of magnesia. In this case the former produces no precipitate, whilst the latter does.—[*Arch. der Phar.*, Oct., 1870.

INFANTILE PARALYSIS.—Dr. Ehrenhaus, of Berlin, at a meeting of Physicians at Baden Baden, spoke of a case of a child two and a half years old, who fell ill, and on the third day the mother observed that it had some difficulty in moving the right arm. Three days later there was left facial paralysis, and also of the right arm, especially in the upper arm. The arm did not respond to electric stimuli, whilst the face did. The sensibility was intact. A slight contraction of the fingers of the right hand was observed.

The facial paralysis disappeared in three weeks without treatment, but that of the arm could only be subdued by long continued exercise and applications of electricity.

The author concludes that there was spinal derangement (as manifested in the paralysis of the arm) and complicating it some acute cephalic disorder (as shown in the facial paralysis and contraction of the fingers.)—[*Centralblatt für Nerven h. k., Psychiat. und Gericht Psycopath*, Oct., 1879.

VARIOLA AND VACCINATION.—Prof. Bohen, of Königsberg, made a very interesting address on variola, vaccination, inoculation, etc., at a meeting held at Eisenach. Among other things, he mentioned the presence of variola in man, goats, sheep and hogs, which produces an eruption, accompanied with fever and affections of the mucous membranes, whilst that occurring in cows and horses is a mere local disease. The first group, besides the contagion effected by the virus, produces fomites, whilst in the second group the immediate transmission of the virus is necessary for the propagation of the disease.

It has been frequently and long observed that cow-pock and horse-pock were inoculated on man, but sheep-pock has only been transmitted by direct and artificial methods.

The cow is predisposed to inoculation with human, equine and ovine virus.

The horse and ass have been successfully inoculated with bovine, humanized and pustular virus. Ovine virus has had no effect.

Sheep are readily affected by bovine and equine virus, but have little susceptibility to the human.

Goats are susceptible to the lymph of the sheep and hog, and reproduce it.

Hogs can be inoculated with human, ovine, etc.

The first transmission of a foreign virus is often unsuccessful, or produces doubtful results, so that it appears that there is a natural resistance which is to be overcome by acclimatizing the virus previously. In the same species, however, the propagation is easy.

In all cases, however, human and animal virus can be reciprocally and successfully inoculated. There is a law by which man has a susceptibility, in common with some other diseases, of contracting variola but one in a lifetime. The practice of inoculation in the past year has proven that the disease, artificially induced, is as competent to insure this further immunity. These laws are equally applicable to the inferior animals. Equine or bovine virus received by accident or intentionally have proved to be of the same value as variola as a future protective. Ovine virus is also a guarantee against variola, and destroys further susceptibility to vaccination.

Cattle that have been inoculated have no longer any adaptability to the reception of equine, ovine or bovine virus. Sheep enjoy the same immunity after an inoculation.—[*Aerztliches Vereinsblatt*, Sept., 1879.

Translations from the French.

EXCERPTS FROM LATE FRENCH JOURNALS. [Translated for the JOURNAL.] By Dr. A. H. OHMANN-DUMESNIL, of St. Louis.

DISLOCATION OF THE HEAD OF THE FIBULA.—At the Surgical Society of Paris, M. Tillaux reported a case of a soldier who, while drilling, had this accident. It was not due to muscular action, but, probably, in advancing, he forcibly adducted it. In

this movement, the ligaments of the head of the fibula probably were ruptured and caused it to be displaced backwards.—*Lyon Médical*, Oct. 19th, 1879.

TRANSVERSE INCISION IN THE VELUM PALATI FOR THE REMOVAL OF NASO-PHARYNGEAL POLYPI.—M. Boekel, of Strasbourg, has employed this method four times as a preliminary operation in the removal of naso-pharyngeal polypi. This incision, from two to three centimetres long, permits the operator to see a part of the pharynx and the base of the skull. During the removal of the polypi, the blood, instead of flowing in the throat, rather makes its exit through the nose. The tumor being removed the wound in the palate is brought together by means of a suture, the union being generally by first intention. The author has seen these wounds heal rapidly without sutures. The incision is made with a bistoury or thermo-cautery.—*I bid.*

TREATMENT OF ACUTE PLEURISY WITH JABORANDI AND PILOCARPINE.—M. Bouchet, in his clinic at the Childrens' Hospital, related the following cases occurring under his observation:

Case 1, a little girl, aged five, whose parents died of phthisis, had marked symptoms of acute pleurisy. Two days after her admission she was given three grms. of infusion of jaborandi, daily; light diet. In a short time the effusion had disappeared and the day after its disappearance the patient was discharged.

Case 2, a girl aged fourteen, who last October had typhoid fever with right pleurisy, was discharged cured in December. Some time ago she was taken with pains in the right side, fever and felt generally broken up. On August 30th she was given jaborandi, 1 grm., and a hypodermic injection of .01 grm. of nitrate of pilocarpine on the abdomen.

Aug. 31—Injection of .01 grm. The effusion is diminished.

Sept. 1—Hypodermic injection of .0075 grm. of nitrate of pilocarpine.

Sept. 2—Infusion of jaborandi, 1 grm.

Sept. 4—.0075 grm. pilocarpine, hypodermically.

Sept. 6—.0050 grm. pilocarpine, and infusion of jaborandi, 1 grm.

Sept. 7—Pilocarpine stopped and jaborandi continued.

Sept. 12—All medication stopped.

Sept. 24—Patient discharged as cured.

Case 3, a little girl aged ten; is strumous, presented symptoms of subacute pleurisy. She was of a debilitated constitution and the diagnosis most difficult to establish. She was given two grms. of infusion of jaborandi daily, and rapidly recovered.—*Paris Médical*, Oct. 16, 1879.

THE SALIVA PRODUCED BY THE ACTION OF JABORANDI.—M. Vulpian reported to the Academy of Sciences, that the saliva secreted by patients under the effect of jaborandi and who had albuminuria, contained three times as much albumen as that of healthy individuals. These observations have been confirmed by experiments conducted by M. Strauss.—*Progrès Médical*, Oct. 11, 1879.

STROMA OF RED BLOOD CORPUSCLES.—M. Houel, at the Biological Society, remarked that when a thin layer of dried blood is washed with distilled water, the corpuscles are not dissolved, the water only carrying away the hæmoglobin. He further stated that when a thin layer of blood is dried in the air, the red discs roll themselves the same as they do in a wet preparation. The diameters of these corpuscles are measured with a micrometer and the layer is then washed with distilled water, which is allowed to run off slowly. The hæmoglobin is carried away, whilst the decolorized corpuscles remain behind on the glass slide. Iodinized water is then poured over it and on examination it can be seen that none of the corpuscles have disappeared. The red ones, deprived of their hæmoglobin, are reduced to a thin pellicle colored yellow by the iodine, and having a double contouri. By the aid of the micrometer it can be readily seen that they have preserved their dimensions and form. The highest powers of the microscope fail to show the presence of any structure in this pellicle, which has no nucleus, filaments or granular matters. This permits us to consider the pretended *stroma* as a thin pellicle of protoid nature, insoluble in water and forming an external membrane to the red blood corpuscle.—*Ibid*, Oct. 18, 1879.

DEFORMED PELVIS A RESULT OF AMPUTATION.—Dr. Brochin relates the following case, occurring in the hospital under Dr. Dumas, at Montpellier. A young woman, aged 19, who had the right thigh amputated when three years old, entered the hospital in December, 1878, to be delivered. On examination the pel-

vis appeared normal. The pregnancy had been quite natural and she was easily and safely delivered. In a few days after delivery she had rigors, general pain, and soon died of peritonitis.

The post mortem examination showed the following anomalies in relation to the pelvis:

1. The total height of the pelvis is much diminished on the right side.

2. The false pelvis is enlarged transversely by the sinking outwards of the left ilium, and the distance between the two anterior superior spines of the ilia is greater than that taken at the middle joint of their crests, which is the reverse in a normal pelvis.

3. The superior strait has all of its diameters more or less increased and this is greatest in the left oblique. The circumference is greater than normal, the right half being the longer; the curve being irregular at various points and the plane of the straits being inclined to the right.

4. Two diameters of the excavation are notably increased.

5. The diameters of the inferior strait are slightly diminished.

6. The right cotyloid cavity is markedly atrophied as also the whole corresponding half of the pelvis.

These are changes more especially interesting to accoucheurs, who will readily perceive all the complications that may arise from such deformities.—*Gazette des Hôpitaux*, Oct. 18, 1879.

CONSERVATIVE TREATMENT OF SYMPATHETIC OPHTHALMIA.—M. Bouchet observes that sympathetic ophthalmia is most probably produced by transmission through the ciliary and optic nerves and proposes the section of these nerves as a substitute for the enucleating method. The operation was successfully performed on dogs, cats, and even rabbits, experimentally, the eye whose nerves had been cut, being retained.

The operation consists in making a slight incision in the conjunctiva, severing the tendon of the external rectus muscle, and passing behind the eyeball with scissors sharply curved on the flat. The eye being drawn forwards and turned inwardly, the optic nerve is put on the stretch, seized between the blades of the scissors and cut, together with the ciliary nerves. The eye is rotated still further in the same direction for examination to

insure the section of all the nerves, then the muscle is replaced, sutured, and an antiseptic dressing employed.

Optico-ciliary neurotomy, as the author calls it has been performed in more than 40 cases successfully, and is an acquisition to conservative surgery.—*Ibid*, Oct. 21, 1879.

PLEURISY AND PURULENT PERICARDITIS IN A CHILD TWO AND A HALF MONTHS OLD.—The child was born with the aid of forceps, the rotation of the head being affected with difficulty, and the labor lasting thirty-one hours. Two days after birth it was vaccinated; this was on March 15th. On May 9th, following, an erysipelatous spot was developed on a level with the crust on the vaccinated arm. On the 13th the erysipelas enveloped the whole arm and hand, and after some time, the left shoulder and part of the thorax. On June 1st it had all disappeared. On the 7th the child was extremely pallid, had blueness of the lips and considerable dyspnœa; also a high fever and weak pulse. The heart sounds were muffled, with complete dullness over the right lung, anteriorly and posteriorly. The vesicular murmur was absent, there being rude respiration at the apex and posteriorly. There being considerable effusion with imminent asphyxia, aspiration was resorted to,. When 30 to 40 grms. of a serous pus had been drawn, the asphyxiating needle was clogged, and before anything more could be done the child died. The post mortem examination revealed the right pleural cavity completely lined with false membranes of recent origin. The pericardium was filled with a purulent liquid, analogous to that found in the pleura and amounting to about 35 grms. False membranes were also present. The heart and other viscera were normal.—*La France Médical*, Oct. 11, 1879.

CAUSES OF ERROR IN THE SUGAR TEST OF URINE.—M. Jolly has communicated to the Society of Practical Medicine, the following:

Barreswill's, Fehling's and other cupro-alkaline solutions, if more or less diluted, undergo a spontaneous decomposition, as was shown long since.

Besides this, it is necessary to abstract certain organic matters in the urine, which have a reducing action on salts of copper and which, on that account, might lead us into error. To effect this a small quantity of sub-acetate of lead is first added to the

urine and the pricipitate separated by filtration. The excess of lead in the filtrate is separated by adding *pure* sodium carbonate. The filtrate is then tested for glucose, the presence of the sodium carbonate having no influence on the test.

This salt, however, must be chemically pure, as the commercial article contains impurities having also a reducing action on salts of copper. What these impurities are the author has not been able to determine, as a variety of experiments with pure sodium carbonate, to which the impurities occurring in the commercial article were added, did not act in the same manner. The observation holds good, however, and to obviate errors, the course detailed above should be pursued.—*Ibid*, Oct. 22, 1879.

Translations from the Spanish.

[Translated for the JOURNAL.] By Dr. A. H. OHMANN-DUMESNIL, of St. Louis.

FILARIA IN THE VITREOUS HUMOR.—Dr. Fernandez in a paper on this subject remarks this entozoön is a filiform neumatoid worm which, when in the interior of the eye, has been found to vary from 15 to 50 mm. in length, and to be not larger than the finest hair. The male has not as yet been found, the female is oviparous. The cases on record of filaria in the eye are not rare. The following is a record of a case occurring in his practice :

Felix Levi, an Italian æt. 34, having lived eighteeen years in Cuba, presented himself on August 7th, 1868. He was of a bilio-nervous temperament, with a good constitution, and no specific disease or diathesis. He said that he had for fifteen days, and without apparent cause, a cloud in his left eye somewhat similar to a worm three fingers breadth in length, and of the thickness of a thread, it being of a black color. He had no pain or other inconvenience, except a slight amblyopia occasioned by this cloudiness. Not paying much attention to the description of the patient, and taking it for an ordinary opacity

of the vitreous humor, an examination with the ophthalmoscope was next made.

With the simple reflector two black points and a whitish opacity (which disappeared between different observation and which was taken for an optical illusion) were discovered. The diagnosis was about to be pronounced as simple opacities of the vitreous humor, when the patient asked, "Will you please tell me what kind of an animal I have in my eye?" This aroused a doubt which resulted in a more protracted and careful examination. After a great deal of trouble, a small worm with undulating movements, similar to those of a reptile, was seen passing through the vitreous humor. It was recognized as a filaria, and its presence verified on several occasions both by the author and by other medical gentlemen.

The patient was ordered frictions with mercurial and belladonna ointment, and internally, arsenic, August 28. Having pursued this treatment, he had a slight iritis and was ordered atropine.

Sept. 1.—Sees but little with the left eye; convex lenses aid somewhat, but he can still only read the first letters of the scale. There are large opacities in the vitreous humor and points on the anterior surface of the lens due to the iritis. A suspicion of some former specific disease again prompted a careful and searching cross-examination, into the history of the patient, with no result.

Sept. 15.—Under proper treatment the opacities have disappeared in a great measure; he can see better and read No. 3.

Dec. 23.—Says he sees less clearly. On dilating the pupil and examining, opacities in the forms of membranes can be distinguished and these lie in the line of pupil. No filaria can be seen.

April 30, '79.—Sees much better; on examining with the ophthalmoscope the opacity of the vitreous humor still exists but very much reduced in volume. Since this date the patient has not been seen. (*Cronica Medico-Quirurgica de la Habana*, October, 1879.)

NEW PLAN OF MEDICAL STUDIES.—The following is the plan that will be pursued in the Island of Cuba, in regard to medical studies; and the projectors think it will equal that pursued in Spain.

First Course.—Descriptive Anatomy, Physics, General Chemistry.

Second Course.—General and Special Histology, Physiology, Special Hygiene, Natural History.

Third Course.—General Pathology and Therapeutics.

Fourth Course.—Medical and Surgical Pathology, Obstetrics, Surgical Anatomy and Operations.

Fifth Course.—Medical and Surgical Clinics (1st course).

Sixth Course.—Medical and Surgical Clinics (2nd course).

Medical Jurisprudence, Obstetric Clinics and Public Hygiene will be studied by the students during the last two years.—(*Ibid.*)

Translations from the Italian.

[Translated for the JOURNAL.] By Dr. A. H. OHMANN-DUMESNIL, of St. Louis.

PROPHYLAXIS OF VENEREAL DISEASES.—Dr. C. Patamia in an article on the above, reviews at length all the evils encountered, both in contracting these diseases and in being treated by irresponsible parties and the necessary precautions that ought to be observed, and concludes with the following propositions to ensure a comparative immunity for individuals and communities:

1st. To have popular instruction on the nature of venereal diseases; to found a work-house; to have fines and imprisonments *enforced.*

2nd. To augment the visits to prostitutes; to sequestrate them as soon as possible after the discovery of their infection.

3d. To appoint a sufficient number of physicians to ensure a thorough and attentive examination in each case.

4th. To establish a dispensary in every community, and a special hospital in every province.

5th. To oblige physicians in charge of hospitals, and (if possible,) the clergy to write articles in the secular papers on

the nature of venereal diseases, so as to show the necessity of prompt treatment.

6th. To inflict the highest penalties on those practicing secretly the treatment of venereal diseases; and especially so, pharmaceutists, whilst on the other hand free clinics for these diseases should be encouraged.

The author thinks that public prejudice would be hard to overcome, especially as regards the right of making a confidant of the secret practitioners.—(*Giornale Internazionale Della Scienze Mediche*, September, 1879.)

PILOCARPINE IN SYPHILIS.—Dr. Lockwood reports its use in two cases, where it proved efficient.

In the first the patient had a tuberculo-squamous affection with lesions of the mouth. The ulcerations lasted a long time, Hypodermic injections of one-sixth of a grain of nitrate of pilocarpine were administered twice a day for two weeks. No mercurials were employed. The ulcerations and eruption disappeared and did not return.

In the other case there were a rupia, lesions of the mouth and a double iritis. A mixed plan of treatment was adopted, Baths of the vapor of calomel were given. The calomel was reduced from fifteen to five grains, and the bath given every other day; an injection, hypodermically of nitrate of pilocarpine, of one-sixth of a grain, being administered before each bath. The perspiration was profuse, upon leaving the bath, and generally continued nine hours, traversing the bed clothes. The amelioration of the symptoms began immediately, and since thirty-three days (meaning fifteen baths) the crusts have fallen, and the patient feels very well; in fact, so well as to warrant his discharge from the hospital.—(*Ibid. from La Sperimentale.*)

Proceedings of Medical Societies.

THE AMERICAN LARYNGOLOGICAL ASSOCIATION.

LARYNGEAL HEMORRHAGE. By J. H. HARTMAN, M. D., of Baltimore, Md.

That hemorrhage from the larynx is more a symptom of disease of that organ than a disease *per se*, is the experience of most laryngologists, being associated most frequently with active inflammation of the parts and solutions of continuity, such as wounds, contusions and ulcerations of the mucous membrane. Ziemssen regards laryngeal hemorrhages, which are not of traumatic origin, as generally unimportant. The blood extravasated into the tissue of the mucous membrane and upon its surface, being slight in amount, generally appearing in the form of streaks upon the catarrhal secretion, and soon disappears.

In most cases the laryngoscope reveals only a small bleeding point. Such cases of capillary hemorrhage depending upon very active inflammation, having been reported by Tobold, Semeleder, Von Bruns and Lewin. Similar cases, no doubt, have been observed by every physician accustomed to the use of the laryngoscope.

Another form, that of hemorrhagic infiltration of the submucous tissues of the larynx, is far more serious in its consequences, the blood becoming rapidly extravasated into the tissues and producing a sudden and often fatal œdema, and results most frequently from traumatic injury to the larynx, though cases have been reported by Sestier[1] and Rouhle[2] as the result of constitutional disturbance. Extensive ulceration of the mucous membrane has been known to cause even fatal hemorrhage. Türck[3] describes a case of laryngeal syphilis in which hemorrhage occurred from an eroded lingual artery in consequence of an ul-

1 Traite de l'augnie laryngée œdermateuse, 1852. pp. 62, 114.
2 Kehlkopf Krankheiten, p. 172.
3 Klinik der Kehlkopfkrankleiten. p. 413.

ceration of the right sinus pyriformis, with denudation and necrosis of the great cornu of the hyoid bone.

Gibb[4] also reports a case in which the hemorrhage took place from a breach of surface in the mucous membrane of the left ventricle, the result of syphilitic dyscrasia, which recovered under treatment. It is possible for the laryngeal mucous membrane to be bruised or cut by the passage of hard or rough morsels in the act of swallowing, or by the accidental passage of a sharp and jagged foreign body, giving rise to either a slight hemorrhage from the surface or causing a sub-mucous infiltration of blood. Two cases of the above forms of hemorrhage having come under my own observation. One, in which the mucous membrane covering the right artynoid cartilage was cut and torn away by the accidental passage of a splinter of crab shell, from which the hemorrhage was but slight in amount. The other, in which the crest of the epiglottis was bruised and infiltrated by the accidental swallowing and impaction, for a few seconds, of a pecan nut.

Fraenkel[5] and Sommerbrodt[6] have reported cases of sub-mucous laryngeal hemorrhage. Fraenkel's case occurring in a lady aged 28, in the last month of her fourth pregnancy, who suffered from daily vomiting, hoarseness, dyspnœa and blood-spitting. The chest presented no abnormal symptoms. Examination of the larynx revealed a blackish redness and swelling of the mucous membrane, and a sanguinous discharge, but no ulceration. Under treatment the symptoms gradually subsided and entirely disappeared after her accouchement. Dr. Fraenkel thinks, with Dr. Semeleder, that the predisposing causes of pure laryngeal hemorrhages are excessive vomiting and also a low degree of atmospheric pressure, as maintained by Dr. Navratil.

Sommerbrodt's case was one in which a dark, round body of the size of a cherry-stone was seen projecting from the posterior laryngeal wall; it was soft and firmly adhered to the inter-arytenoid space. Upon being opened with a bistoury, a quantity of dark blood flowed out and the swelling disappeared. It was, from the history of the case, supposed to have been caused by the swallowing of some hard, foreign body.

The following case which came under my observation a short

4 The Throat and Windpipe, p. 264.

5 Berliner Klinische Wochenchrift, 1874. No. 2.

6 Berliner Klinische Wochenchrift, April, 1878.

time since, is one of particular interest, unconnected as it was with either a traumatic cause or inflammatory action.

Mr. L., aged 32, a strong, robust man, weighing about 162 lbs., came under my charge on the morning of Dec. 10th, 1878, with the following history: Being an active member of a singing society, he had, the evening before, attended one of its rehearsals, singing his parts as usual, without any extra exertion or inconvenience. Returning home feeling perfectly well, was taken about an hour later with a sudden filling up of his throat, a sense of choking, and expectorated from two to three ounces of pure, bright red blood. The free use of ice controlled the hemorrhage for the time, there being no further bleeding until the following morning, when, shortly after arising, he was again taken with hemorrhage, experiencing the same feelings as the night previous and expectorating about the same quantity of blood, of a florid color.

The use of ice was again resorted to, but with only partial success, as he continued to expectorate blood in small quantities until seen by me, about one hour after the commencement of the hemorrhage. There was no history of pulmonary disease or previous throat trouble. On careful examination, his chest revealed no abnormal condition of the lungs or heart. Inspection of the mouth, gums, pharynx, naso-pharynx and nasal cavities showed no bleeding points, the parts to all appearances seeming perfectly healthy.

Attention being next directed to the larynx and an examination of the same being made, the source of the hemorrhage was readily seen to be a largely ruptured capillary vessel, upon the upper surface, about the middle of the left ventricular band, from which the blood could be seen oozing gradually, trickling down into the glottis, producing paroxysms of dyspnœa, coughing and expectoration. There was no rupture of the tissues, or any apparent diseased condition of the larynx, though the general appearance of the surrounding parts were slightly changed by the discoloration consequent from the flow of blood. Careful examination showed no further bleeding points. The application of a strong solution of ferric alum, (℥ss to glycerine and water āā ℥ss) with a laryngeal brush directly to the seat of hemorrhage, and a weak solution of the same in the form of a spray thrown into the larynx, readily controlled the flow of blood.

The patient was again seen the following day, when the point

from which the hemorrhage took place had entirely disappeared, there having been no return of the bleeding.

Upon his second visit a much more satisfactory examination was made, and still no diseased condition could be made out to explain this sudden and unaccountable rupture of a capillary vessel. That infarction of a blood vessel may frequently be the cause of rupture and hemorrhage from the same is well known; and further, that capillaries may also be the seat of fatty degeneration, the epitheleal cells being destroyed in the process, and the walls so much damaged that rupture is often the ultimate result. It is more than probable that either one or the other of these pathological changes was the primary cause of the hemorrhage in the case just cited.

Had no laryngoscopic examination been made in the above case, it would undoubtedly have been diagnosed as a case of bronchial hemorrhage, though the physical examination may not have given satisfactory evidence. An error in itself to require every physician to be familiar to a certain extent with the handling of a laryngoscopic mirror. The case farther justifies me in thinking that we may look for, and that it is possible for laryngeal hemorrhage to take place, without necessarily being connected with either traumatic causes or inflammatory action. Also, that such hemorrhages, unconnected with either of the above causes, may prove to be a question of serious import.

A CASE OF LARYNGEAL HEMORRHAGE. By CLINTON WAGNER, M. D., of New York City.

Dr. M., aged about 28 years, of rather spare habit, consulted me in Oct., 1873, for hæmoptysis. His lungs, upon a careful auscultation, were found perfectly healthy. Dr. Carson, of Cincinnati, had previously made several examinations, with a similar result. A laryngoscopic examination revealed a general hyperæmia of the laryngeal mucous membrane, and from the left ventricular band, and also the left ventricle, posteriorly, an oozing of blood in minute drops could be distinctly seen.

Local applications of the ferri per chlorid ʒii to ʒi aquæ and insufflation of acid tannic were made on alternate days, and gave for the time marked relief. Inhalations of acid tannic from the steam atomizer were also used. After having been about a week under the above treatment he was suddenly attacked with profuse hemorrhage upon reaching his residence, after having walked from my office, a distance of five blocks.

Prof. Austin Flint and Dr. C. C. Lee were called in to see the case. They thought the hemorrhage at that time bronchial. In this I quite concurred, although satisfied that it had had its origin in the larynx.

In due time the patient made a good recovery, and returned to his home. The subsequent history of this interesting case is given in the Doctor's own language in a letter received from him the following April, 1874:

"Your kind inquiries in regard to my present state of health may be thus briefly answered: I had a return of those hemorrhages in February last. I enjoyed excellent health during the winter, with the exception now and then of a slight sore throat. On two occasions (the day after having partaken of wine) I cleared a small clot or two from my larynx, not, however, followed by any serious manifestations. In the meantime my health remained in its usual condition. As regards my throat, it was ever so much better than in the previous winter. I had not the slightest cough or even a tendency thereto; I felt perfectly well.

"On the 20th of February my duties of Health Commissioner carried me out on a junketing political expedition. I went to a 'champagne dinner,' and partook of a pint or two of 'malt and chandor;' not enough to affect my head, but just enough to make my throat feel uncomfortable the next day (21st). On Sunday morning, the 22d, when I arose I cleared my throat of a pellet of mucus, which was quite streaked with blood. This was before breakfast. Anticipating trouble I took a Seidlitz powder and also a dram of 'ex. ergotæ fed.' Went as usual to my office, and meeting a friend told him my throat was about to bleed. I then went to Drs. Foster & Carson's office. The former asked me to dine with him; I declined, giving as a reason that my throat was about to bleed, and was even then passively bleeding. Dr. Foster laughed at me, and I then asked him to send Dr. Carson to me to examine my larynx with the larygoscope then and here. Before Dr. Carson arrived I had a brisk hemorrhage

losing about two ounces of blood. There were no air bubbles in this blood, and I am led to think it must have been tracheal and laryngeal altogether.

"I went home and remained quietly in bed for a week, eating a good sqnare meal three times a day, and feeling as well as usual. No increase of temperature or pulse rate after the hemorrhage; no cough; nothing in fact to indicate that I had any trouble, save the clot I cleared from my larynx every morning, which showed a still lingering attempt at passive hemorrhage.

"On the two days after I rose from my bed I had a return of the hemorrhages. By inclining my body well forward no blood seemed to enter the bronchi. There was no great loss of blood during either of the latter attacks. Dr. Carter was present during the last one, and stated positively that the hemorrhage must be from high up. He examined my lungs in the most careful manner, and could discover no signs of the least pulmonary trouble. I weigh more now than I did a year ago. No shortness of breath; in fact, nothing to show that there is anything the matter with me. I consider the first attacks, as well as the last, to be laryngeal hemorrhages. What the ultimate result may be I cannot say."

The above patient has lived to become an active worker in the profession; has filled the office of Health Commissioner of a large Western city, and written several valuable works on medical subjects. I have had several other cases of laryngeal hemorrhage similar in character and symptoms to the above occurring in my practice.

A FEW SUGGESTIONS ON ANÆSTHESIA OF THE LARYNX.

By WM. C. GLASGOW, M. D., of St. Louis, Mo.

The need of an agent by which the expressive sensibility and the spasmodic contractions of the larynx, caused by the introduction of instruments can be controlled, has been fully experienced by every laryngeal surgeon.

The common method of deadening sensibility by the repeated introduction of the sound is tedious, both to operator and patient.

Some cases can readily be operated upon with slight preparation, but still we find others where the most persistent education gives little result.

The use of the bromides—potassium, sodium and ammonium—when applied locally and taken internally, produce a certain effect in diminishing the sensibility, but their use is unsatisfactory when the production of anæsthesia of the larynx is desired. The same may be said of ice and the various astringents, as for example, tannin.

The morphia and chloroform solution of Prof. Bernatzie, as given by Türck, and as used by Bruns and Schrœtter, does certainly produce the desired result, but as the constitutional effects of morphia are marked long before the anæsthesia of the larynx is sufficient, it cannot be called a safe remedy or one that can come into general use.

In 1871, fresh from the instruction of the Vienna school, I used this solution for the first, and I trust, for the last time. The patient was a young girl, with papillomata of the larynx. I applied the solution of Bernatzie after the manner as taught by Schrœtter. The constitutional symptoms preceded the local anæsthesia fully one and a half hours, and they became so grave during the operation that it had to be suspended and most energetic measures employed to combat the toxic effect of the drug. The local anæsthesia, however, was complete.

I have seen the morphia solution repeatedly used with great success in the Vienna clinic, and it may be possible that my patient was peculiarly susceptible to the drug; still, the method is subject to too many risks ever to become popular.

During the past winter I have been experimenting with two remedies, both of which produced, in a measure, not only the desired anæsthesia, but also relief from pain. I refer to the hydrate of chloral and carbolic acid. Both remedies have been extensively used in throat practice, but as far as I am aware, they have never been suggested or used for the purpose of producing anæsthesia of the larynx.

The hydrate of chloral is decidedly inferior to the carbolic acid, and it is to this last that I would especially direct the attention of the members of this Association. As typical experiments, I give the following cases, illustrative of many, on which I have founded my belief in the anæsthetic property of strong solutions of carbolic acid:

CASE I.—A case of phthisis, with an enlarged hyperæsthetic follicle in the pharynx. The pain on swallowing was so severe as almost to prevent the taking of food. The solution of carbolic acid, in volume 1 to 5 of water, was applied to the follicle. An intense burning sensation was experienced, which lasted twenty seconds. This was followed by complete relief, and the act of swallowing was performed without pain. The application was made daily, one-half hour previous to the evening meal, which could then be taken with great comfort.

CASE II.—Phthisis, with laryngeal complication. Extensive ulceration of the ary-epiglottidean fold. The ulceration was touched with a solution of carbolic acid, 1 to 8 of water. The burning sensation having passed off, it was touched with solid nitrate silver. No pain whatever was experienced, the patient stating that he simply felt the contact of the instrument. The ulceration was touched with sulph. of copper, 20 gr. to ʒi—an application of the acid having been previously made. No pain was felt. The ulceration was touched with hydrate of chloral, 60 gr. to ʒij water. An intense burning pain followed, more severe than that of the acid, and lasting over a minute. The solution of copper was then applied. In a half hour the aching pain of the copper application was felt, which lasted some two hours.

CASE III.—Patient with follicular inflammation and enlargement of tonsil, accompanied with neuralgic pain in the part. The tonsil was touched with a solution of carbolic acid, 1 to 6. After a few seconds the burning ceased, and complete relief was felt for two hours.

CASE IV.—Patient with cockleburr in ventricle of the larynx. The mucous membrane was excessively sensitive, the slightest contact of the instrument producing violent contractions. The solution of carbolic acid was applied to the epiglottis and glottic region, after which the forceps could be readily introduced and the burr removed.

Conclusions.—1st. Carbolic acid in strong solutions produces anæsthesia of the larynx and relieves pain. The application causes an intense burning, which lasts about twenty seconds; the anæsthetic condition continues about two hours.

2d. The hydrate of chloral in strong solution applied to the mucous membrane produces anæsthesia. The application causes a severe burning pain, lasting over a minute; the anæsthesia does not continue longer than one-half hour.

3d. The strength of the solution necessary to produce anæsthesia varies somewhat in different persons.

4th. It is recommended that the weaker solution be applied first, and this can be followed by the stronger solutions. The first application is the only one causing pain.

5th. No bad results, either constitutional or local, have followed the application of strong solutions of carbolic acid.

MITCHELL DISTRICT (IND.) MEDICAL SOCIETY.

ANTAGONISM BETWEEN OPIUM AND VERATRUM VIRIDE. By JAMES C. GARDNER, M. D., of Mitchell, Ind.

My attention was first called to the antagonism between opium and veratrum viride when treating a case of peritonitis. I gave opium and veratrum combined; the opium was intended to relieve the pain and restlessness, the veratrum to reduce the action of the heart and arteries. My prescription was pulv. opium, gr. ii to gr. iij, Norwood's tincture veratrum viride, gtts. v. My patient was relieved but did not sleep. I next treated a case of typho-malarial fever in which delirium and restlessness were prominent symptons. I gave sul. morphine followed by the happiest effect in procuring sleep, rest and quietude for four or five hours, when my patient awoke, having a very dry mouth, pulse full and numbered about eighty-five. Patient restive, I concluded to add five gtts. of Norwood's tincture to the next dose of sul. morphine, and give every fourth hour until the patient rested and slept well. After the third dose was given I found my patient resting well, but had not slept since commencing the use of the veratrum viride. I then directed the veratrum to be omitted and the morphine to be continued. One dose of the morphine was sufficient to procure a good, refreshing sleep. In a few days after I had noticed this effect, I thought this must certainly be attributed to the veratrum viride. I was called to see a child æt. 15 months who had swallowed about a half grain of sul. morphine left by a physician for a lady who had been in the

habit of taking morphine. She had mixed the morphine in a little water and left it standing in a glass on a chair to step into an adjoining room, when the child drank the poison. I saw the child in about an hour and a half after it had drank the solution. The little fellow was comatose; I could hardly arouse him enough to get him to swallow the medicine. I gave him gtts. x of Norwood's tincture of veratrum viride. In about thirty minutes he vomited, his eyes opened, he looked around, then looked up in my face and smiled. His improvement continued from this, so that he required no further aid.

These results brought me to the conclusion that there must be some antagonism between veratrum viride and opium. When upon mature reflection, I find that opium diminishes or arrests the secretions of the salivary, pulmonary hepatic, and urinary organs, the vessels of the brain become loaded, the lungs congested, the blood poisoned by the retention of urea, which aids in deepening and making more fatal the coma—resulting from the narcotic poison—this idea differs somewhat in being an exception to the general mode of death produced by opium poison, as we have heretofore understood it. Urea, one of the most important organic constituents of the urine, not being properly eliminated through the excretory functions of the kidneys, these having been arrested by the narcotic poison of the opium, the kidneys are no longer adequate to the proper elimination of this excrementitious substance, toxæmia is the result. This poisoning of the blood is noted by symptoms seriously affecting the nervous system, such as coma and convulsions preceding death, as in scarlatina with renal complication, in nephrétis in Bright's disease, and puerperal eclampsia are due to uremic poisoning. In poisoning by opium, as is stated above, the secretions are diminished, and to a very great extent, suspended. The physiological action of veratrum viride stimulates the secretion or the secretory functions of the salivary glands, the lungs, the liver, and the kidneys, at the same time acting as a decided arterial sedative, reducing the force and frequency of the pulse, thereby lessening the fullness of the vessels of the brain, preventing serous effusion into the ventricles, relieving congestion of the lungs, and setting the whole machinery into healthy normal action again. Mode of administration; give in sufficient quantity to produce free vomiting. To an adult I would give one drachm in a little water every half hour or hour until free emesis is established, and to children in proportion. It is not followed by that depression which ordinarily succeeds a full dose of veratrum viride.

DISTRICT MEDICAL SOCIETY OF NORTHWEST MISSOURI.

St. Joseph, Mo., October 9th, 1879,

The eighteenth quarterly meeting of the District Medical Society of Northwest Missouri convened at 11 A. M.

President Dr. A. Goslin in the chair. In the absence of Dr. Christopher, Dr. France was appointed Secretary.

The following members were present: Drs. Long, Bryant, W. I. Heddens, Trevor, Donelan, Simmons, Doyle, Geiger, Chesney, Richmond, Carpenter, Siemans, Spicer, Christopher, Craig, Leigh, Kearney, Brown, Farr, Catlett, Smith, Kirschner, Kemper, J. W. Heddens and Varner.

Drs. Doyle and Siemans were appointed a committee to invite two lady physicians to attend our meeting.

The Society adjourned to 2 P. M.

AFTERNOON SESSION.

The Society met at 2 P. M. President Goslin in the chair; Dr. Doyle, Secretary, pro tem.

Drs. Williams and Sparks, lady physicians, were introduced to the President by Dr. Siemens.

Dr. Kearney read quite an interesting paper on constipation. It was spoken of by the members of the Society in a complimentary manner.

The following gentlemen were elected members of the Society, viz.: Drs. J. B. West, J. B. Connett, and J. L. Coffey.

It was moved and seconded that the rules be suspended to allow Drs. Bryant and Craig to present some cases to the Society, which was carried.

Dr. Bryant presented an interesting case of cerebral neurasthenia, on which he made some remarks.

Dr. Craig presented a case of curvature of the spine, wearing a plaster cast; also applied one to another case in the presence of the Society, after which he spoke at length on the causes of this disease, claiming it to be produced by traumatism, rejecting the theory of scrofula.

Remarks were made on this plan of treatment by Dr. W. I. Heddens, claiming it to be so simple that after the first application the farmer or mechanic could apply it as well as the doctor.

Dr. Simmons reported some remarks made by Prof. Sayre on the use of the plaster jacket in fractured ribs.

Dr. Goslin presented a valuable pathological specimen of a scirrhus uterus and ovaries removed from a maiden lady aged 52.

Dr. Doyle presented a specimen of knotted funis; also several cases of cystic degeneration of the chorion.

Dr. Kearney reported a case of malarial fever, followed by symptoms of tetanus.

NIGHT SESSION.

The Society met at 7:30 P. M. The President in the chair; Dr. Christopher, Secretary.

The regular subject for discussion, peritonitis, was called up, and opened by Dr. Doyle, who made quite an extended speech.

Dr. Simmons followed with some worthy remarks. During the discussion, which became pretty general, some remarks were made in reference to the want of experience among the younger members of the profession, which brought Dr. Craig to his feet, stating that he arose to enter a plea for the young members, being one of the number; claiming that a man did not have to be in the profession a lifetime to detect the symptoms of ulceration or perforation of the bowel in typhoid fever, etc.

Dr. Leigh reported a case of a young man who was wounded by an Osage thorn, which ended in sarcoma and final amputation of the limb. He also presented the tumor which was extirpated before amputation; after which a discussion arose between Drs. Simmons, Geiger and Leigh as to the difference between sarcoma and carcinoma.

Dr. J. W. Heddens reported a case of masturbation complicated with stricture, from which arose a general discussion which at times was very interesting, and at other times very amusing.

The Committee on Programme reported the following for the next quarterly meeting: Essayists, Drs. J. Leigh, James Heddens, Bryant and Craig; subject for discussion, "Alcohol as a Remedial Agent."

After some remarks of exhortation and encouragement by the President, the Society adjourned.

A. GOSLIN, M. D., President.

D. I. CHRISTOPHER, M. D., Secretary.

Clinical Reports from Private Practice.

STRUCK BY LIGHTNING. By T. G. HORN, M. D., of Colorado Springs, Colorado.

Mr. J. T. Owens, of this place, aged 60 years, proprietor of a "hack line" running between this place and Leadville, while returning from the latter place during the early part of August, 1878, and while passing over an elevated portion of the western part of South Park, about sixty-five miles from this city, was suddenly surprised by a bright flash of lightning, followed immediately by a loud, sharp peal of thunder. This caused him to look out of his hack (a light, two horse, covered spring wagon) to see from whence it came. He discovered a small cloud near and thought it impossible to encounter much of a storm. Starting his ponies on a brisk trot, he hoped to pass beyond its range. In an instant he felt a shock and knew nothing more. Fortunately some persons were camping near who saw the accident and hurried to his aid. The bolt entered the wagon just over Mr. Owen's head, making a round hole, not much larger than a walnut. Dividing, it passed on both sides of the body, taking the inside of the left leg and top of the right, passing through the right foot near the center, dividing the cuboid and external cuniform bones, crushing the former and carrying away a large portion of the palmer surface of the foot, leaving a ghastly, rugged wound, tearing the boots to atoms and setting his clothes on fire; killing both horses instantly, falling on their sides, with their feet together. The left leg suffered less from the electric current, but received a severe burn on the inside of the knee from the clothing. Mr. O. was brought home by his daughter some five days after the accident. I was summoned immediately and found him weak, very nervous, mind much impaired. Used simple dressings of carbolates of oil and carbon, good diet and best tonics. During the latter part of the month I had the honor of showing this case to Prof. John T. Hodgen, M. D., of St. Louis, who was visiting this county at that time. He advised to continue same treatment and keep the wound well open. The shock had impaired Mr. O.'s mind to a much greater extent than at first anticipated, and as the physical forces yielded to the immense drain and constant close confinement, his mental condition became much worse. The wound was well cared for and as soon as the shattered bones could be removed, became healthy, and healed as

rapidly as could be expected under existing circumstances. The mental trouble improved but little by out door exercise, and I therefore advised a trip East. He spent several months among friends in New York and returned in May of this year much improved in body and mind. He now (Oct. 1st, 1879) attends to his usual business and can walk without the use of a cane.

THE EFFECT OF HYPODERMIC INJECTION OF MURIATE OF PILOCARPIN IN INTERMITTENT FEVER. By CHAS. T. REBER, M. D., of Shelbyville, Ill.

James Henry, aged 29, of good history as to health previous to an attack of intermittent fever (quotidian) which came on four days ago (present date, Nov. 6th), states that the chill is coming on, it being at 10:30 A. M., about the usual time of day of the occurrence of the chill. Inject hypodermically 1-6 gr. of muriate of pilocarpine. His hands and feet were cold; nails blueish; pulse soft and rapid; he feels chilly and restless; skin is shrunken and dry and very dense, so that it was with some difficulty that the point of the syringe was passed through it, from its leatheriness. In about one minute the saliva begins to flow; in one and a half minutes perspiration commences to stand in drops on the skin; in five minutes he asks for an opportunity to empty his bladder, and passes over one-half pint of pale urine. His skin is now becoming of a deep purple blush, with extremely profuse perspiration dripping from his nose and rolling in drops down the body; salivation and expectoration astonishingly profuse; respiration, sighing and irregular; pulse feeble and rapid; complains of nausea, which abates on lying down; the skin of the hands become shriveled and cold—most complete washerwoman's hands; nose cold; temperature of the surface of the body generally lowered; internal temperature unfortunately not taken; muscular twitching and jerking, passing into a tremor of of the whole body, but he says he feels warm; eyes dull. Three-quarters of an hour after the injection of the pilocarpin, owing to the somewhat threatening condition of the patient, who complains of feeling very weak while lying down, and the salivation and perspiration and all the other symptoms continuing, and the nervous prostration at least increasing, there was injected hypodermically 10 drops of tinc. of belladonna, and given by the mouth ℥j of whisky. In about one minute the salivation and perspiration decreased very sensibly, and the pulse became

plainer at the wrist, fuller and less rapid; the nervous disturbances gradually subsided, and in two hours from the injection of the pilocarpin he was able to leave the office, his weight reduced, I have no doubt, by several pounds by the most profuse salivation and diaphoresis that has come under my observation, not excepting that caused by a hot air or Turkish bath of a temperature of 200° F.

He called again on the third day; has had no chill nor fever, but has felt weak and sweated a little at night. Prescribed 3 grs. of cinchonidia, four times daily, for two days. He has recovered completely without further treatment.

How will those who hold to a specific cause—a germ, a palmella, or bacillus—explain the remedial effect of 1-6 of a grain of muriate of pilocarpin in intermittent fever?

Editorial.

WITH this number we close the 37th volume of the JOURNAL. We are conscious that we have done all that laid in our power to make it not only worthy of a place on the table of the medical practitioner, but also a necessity to him. That we have in a measure succeeded in this, is shown by the desire expressed by a large number of the most prominent societies, that the JOURNAL should become their official organ, and by the voluntary expressions of commendation of the contents of the JOURNAL and approbation of the course that we have taken in its conduction by hundreds on hundreds of our subscribers. Our efforts to make it an honor to the profession of the West and Southwest will be continued while we have it in our control.

As announced in the last number, the JOURNAL will be issued on the 5th and 20th of the month after January 1st, 1880.

Books and Pamphlets Received.

A Treatise on the Theory and Practice of Medicine. By John Syer Bristowe, M. D., London; second American edition, revised by the author, with notes and additions, by James H. Hutchinson, M. D. [Philadelphia: Henry C. Lea, 1879.]

The Treatment of Fracture of the Lower End of the Radius. By R. J. Levis, M. D. [From the Transactions of the Medical Society of the State of Pennsylvania.]

Some Important Topical Remedies and Their Use in the Treatment of Skin Diseases. By John V. Shoemaker, A. M., M. D., Philadelphia. [Extracted from the Transactions of the Medical Society of the State of Pennsylvania, Vol. XII, 1879.]

Report of the Committee on Public Health Relative to Lunatic Asylums. Transmitted to the Legislature, May 22d, 1879. [Albany, N. Y., 1879.]

A Contribution to the Study of Laryngeal Syphilis. By Ethelbert C. Morgan, A. B., M. D. [Reprint from the *Virginia Med. Monthly*, Oct., 1879.]

Regulations for the Government of the United States Marine Hospital Service. Approved by the Secretary of the Treasury, Nov. 10th, 1879. [Washington, 1879.]

Annual Report of the Surgeon-General, United States Army. Oct. 1st, 1879.

Adenoid Growths in the Vault of the Pharynx; their Removal by the Galvano-Cautery. By J. O. Roe, M. D., Rochester, N. Y., Fellow of the American Laryngological Association. Read before the Central New York Medical Association, 1879. [Reprinted from the *Medical Record*, Sept. 13th, 1879.]

Infant Feeding and Its influence on Life, or the Causes and Prevention of Infant Mortality. By C. H. F. Routh, M. R. C. P. L.; third edition; pp. 270, 8vo. [New York: William Wood & Co., 27 Great Jones street, 1879.]

A Biographical Dictionary of Contemporary American Physicians and Surgeons. Edited by William B. Atkinson, M. D.; second edition, enlarged and revised; pp. 747; large 8vo. [Philadelphia: D. G. Brinton, 115 South Seventh street, 1880.]

Paracentesis of the Pericardium; a Consideration of the Surgical Treatment of Pericardial Effusions. By John B. Roberts, A. M., M. D.; with illustrations; pp. 100; 8vo. [Philadelphia: J. B. Lippincott & Co. London: 16 Southamptm street, Covent Garden, 1880.]

A System of Midwifery, including the Diseases of Pregnancy and the Puerperal State. By William Leishman, M. D.; third American edition, revised by the author; with additions by John S. Parry, M. D., with 205 illustrations; pp. 732; 8vo. [Philadelphia: Henry C. Lea, 1879.] For sale by the Book and News Company, St. Louis, Mo.

First Lines of Therapentics as Based on the Modes and the Processes of Healing, as Occurring Spontaneously in Disease; and on the Modes and the Processes of Dying, as Resulting Naturally from Disease. In a series of lectures. By Alexander Harvey, M. A., M. D., Edinburg; pp. 278; 16mo. [New York: D. Appleton & Co., 549 and 551 Broadway, 1879.]

A Ministry of Health and Other Addresses. By. Benj. Ward Richardson, M. D., F. R. S., M. A., L. L. D., F. S. A.; pp. 354; large 16mo. [New York: D. Appleton & Co., 549 and 551 Broadway, 1879.]

The Physician's Visiting List for 1880. Twenty-ninth year of its publication. [Philadelphia: Lindsay & Blakiston.] Sold by all booksellers.

The Pathology and Treatment of Venereal Diseases. By Freeman J. Bumstead, M. D., L. L. D., etc.; fourth edition, revised, enlarged and in great part rewritten by the author, and by Robert W. Taylor, A. M., M. D.; with 138 wood cuts; pp. 835; 8vo. [Philadelphia: Henry C. Lea, 1879.] For sale by the Book and News Company, St. Louis, Mo.

Consumption and How to Prevent It. By Thomas J Mays, M. D.; pp. 8; 16mo. [New York: G. P. Putnam's Sons, 182 Fifth avenue, 1879.]

Transactions of the Medical Society of the State of Pennsylvania, at its thirtieth annual session, held at Chester, May, 1879. Vol. XII, part II. Published by the Society. [Philadelphia, 1879.]

A System of Medicine. Edited by J. Russell Reynolds, M. D., F. R. S.; with numerous additions and illustrations, by Henry Hartshorne, A. M., M. D. In three volumes. Vol. I, General Diseases and Diseases of the Nervous System; pp. 1,127; large 8vo. [Philadelphia: Henry C. Lea, 1879.] For sale by J. H. Chambers, 305 Locust street, St. Louis.

METEOROLOGICAL OBSERVATIONS.

By A. WISLIZENUS, M. D.

The following observations of daily temperature in St. Louis are made with a MAXIMUM and MINIMUM thermometer (of Green, N. Y.). The daily minimun occurs generally in night, the maximum at p. m. The monthly mean of the daily minima and maxima added and divided by two, gives quite a reliable mean of the monthly temperature.

THERMOMETER, FAHRENHEIT—NOVEMBER, 1879.

Day of Month.	Minimum.	Maximum.	Day of Month	Minimum.	Maximum.
1	27.0	42.0	18	38.0	42.0
2	39.0	45.0	19	31.5	52.0
3	28.0	37.0	20	22.5	31.0
4	26.0	48.5	21	25.0	37.0
5	41.0	61.0	22	30.0	56.0
6	50.0	65.0	23	37 5	45.0
7	53.0	67.0	24	28.0	53.0
8	59 5	73.5	25	40.0	50.0
9	51.5	54.0	26	47.5	58.0
10	47.5	66.0	27	53.0	68.0
11	62.5	74.5	28	37.0	42.5
12	56.0	73.0	29	28.5	35.5
13	52.5	78.5	30	26.0	42.0
14	59.0	65.0	31		
15	48.5	61.0			
16	41.5	61.0	Means	40.8	54.0
17	38.0	42.5	Monthly Mean	47.4	

Quantity of rainfall, 4.34 inches.

MORTALITY REPORT.---CITY OF ST. LOUIS.

FROM OCTOBER 19, 1879, TO NOVEMBER 29, 1879, INCLUSIVE.

Septicæmia..... 7	Cholera Infantum 6	Hydrocephalus &	Apoplexy 11
Measles..... 0	Inanition, Want of	Tubercular Men-	Cyanosis and At-
Syphilis..... 2	Breast Milk, etc. 20	ingitis..... 10	electasis.....
Scarlatina..... 5	Alcoholism.....11	Meningitis and	Premature & Pre-
Diabetes Mellitus. 3	Rheumatism and	Encephalitis ...16	ternatural Birth
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A Guide to the Examination of Urine, by K. B. Hoffman and R. Ultsmann, 502.
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Philosophical Therapeutics—A New Theory, by T. W. Poole, 75.
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